

# 7 HOW TO CREATE HIGHER PERFORMING, HAPPIER CLASSROOMS IN SEVEN MOVES

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## A PLAYBOOK FOR TEACHERS

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# EXECUTIVE SUMMARY



This playbook shares the findings of three researchers who set off to discover what K-12 schools can learn from the best-run organizations in America. Why are companies such as Zappos, Geico, and Google continually ranked among the best places to work if you want to be happy and successful? Could classroom teachers use similar strategies to improve their students' happiness and performance, not to mention their graduates' readiness to work in America's top organizations someday?

The researchers—all of whom are former K-12 teachers—began by searching for strategies that successful managers in today's well-regarded organizations have in common. They found that the best managers in leading organizations do at least three things extraordinarily well: they empower their teams and do not micromanage, they are great coaches, and they emphasize accountability.

Of course, classrooms are inherently different from companies, and students are not teachers' employees. But in both settings, the person in charge is seeking to create a happy climate that encourages and maximizes positive results. If empowering teams, serving as good coaches, and emphasizing accountability are top principles for successful managers in "best places to work" environments, then similar principles could work for teachers tasked with motivating and guiding students. Furthermore, many students will one day look for jobs in workplaces that embrace these management principles. Classrooms would do well to prepare students by resembling future workplaces more intentionally.

Table i Seven moves for teachers to create happier, higher performing classrooms

Principles	Moves for teachers to create happier, higher performing classrooms
Empower the team and do not micromanage	<ol style="list-style-type: none"><li><b>1. Teach mindsets.</b> Develop the mindsets of agency, creativity, growth mindset, and passion for learning.</li><li><b>2. Release control.</b> Provide content and resources that students are free to access without your direct instruction. This control gives them ownership, develops their agency, and frees up your time.</li><li><b>3. Encourage teaming.</b> Foster peer-to-peer learning and dynamic, team-based collaboration.</li></ol>
Be a good coach	<ol style="list-style-type: none"><li><b>4. Give feedback.</b> Create a culture of feedback so that students receive personal, frequent, and actionable feedback in the moment, in small groups, and in one-on-ones.</li><li><b>5. Build relationships of trust.</b> Show interest and concern in students as individuals and trust in their ability to drive their own learning, given the right structures are in place.</li></ol>
Emphasize accountability	<ol style="list-style-type: none"><li><b>6. Help students hold themselves accountable.</b> Give them tools to set goals, track their progress, and follow through.</li><li><b>7. Hold yourself accountable.</b> Use reflection time, peers, student surveys, and self-assessments to make sure that you are on track personally.</li></ol>

That said, sometimes the hardest part is turning high-level principles into concrete action steps. Through a series of classroom pilots, the researchers found that teachers can replicate the successes of top managers in cutting-edge workplaces by making seven specific, practical moves to introduce a similar culture into their classroom routine, which **Table i** summarizes.

Many of these moves will look familiar to teachers; as it turns out, good teachers and good managers share many best practices. The difference, however, is in the day-to-day structures and routines that cutting-edge organizations put into place to make these practices sustainable on a consistent basis.

Three sets of teachers—Kelly Kosuga at Alpha Public Schools, Rebecca Weissman and Linda Rogers at Redwood Heights Elementary School, and the advisory team at Khan Lab School—set out during the spring 2016 semester to figure out how to make these moves in a school setting. They each set about making the moves differently. This playbook is loaded with the ideas, pictures, templates, and tools that these teachers discovered during their pilots. Every school is different; choose the ideas that work best in your circumstances. The last chapter identifies lessons learned and common threads across all three sites. You may find these are likely bets for you, too.

By the end of the pilots, all three sites found that one-on-ones between teachers and students were one of the best ways for teachers to use the time they gained from applying new management principles. That discovery has implications for the personalized learning movement. Some opponents say that technology dehumanizes classrooms. The researchers found, however, that the opposite can happen. Teachers can use technology to free up their time so that they can have *more* human interaction and one-on-one relationships with students than they did before the computers arrived.

Teachers, this playbook is for you. Some of you might be wondering how best to serve an increasingly diverse group of students with complicated needs. Some might be facing more devices and other technology in your classrooms and wondering what your role is in a world where instruction can be delivered from so many different sources. Some might be concerned with students' low performance in school and failure to launch after school. If you have any of these concerns, then this playbook is intended to ease your load. Your journey to improve your classroom and meet the needs of today's students is not in the dark; successful managers outside of education, combined with the teachers in the pilot schools in this playbook, together illuminate a number of moves that can help you better meet the needs of students today.



# INTRODUCTION



Nearly a decade ago, when the book *Disrupting Class* called on schools to transform the factory-based classroom model, that was a novel and provocative idea—even subversive. But today, the appeal to retire the factory model is mentioned so often, it's become cliché. What caused that rapid change in perspective?

The book and others like it, of course, had a lot to do with that change. More at the root, however, is that society changed significantly in the past decade, and it's not done yet. The traditional classroom is becoming outdated right before our eyes. Classroom teachers don't need a book to tell them that. They are experiencing firsthand the effects of living through what the World Economic Forum calls the Fourth Industrial Revolution. From robots and artificial intelligence to the Internet of Things and self-driving cars, teachers are working at a time when the line between the physical and digital worlds is blurring. This technological revolution is altering the way people live, learn, and work. Our students, and even young teachers and parents, are digital natives. Meanwhile, family changes, immigration, and other social factors are introducing new instabilities in children's lives. From the frontline of the classroom, teachers living through this moment in history are feeling the effects.

Increasingly, teachers open the classroom doors each day to students whose parents can't find work or are underemployed. Many live with a single parent who must juggle the tasks of making money and parenting alone. Many are immigrants and refugees who are trying to make the transition to a new language and culture. The increasing instability in children's lives turns up the pressure on teachers to serve as the safety net that holds everything together.

Meanwhile, there's a growing sense that classrooms aren't cutting it for all students, not just those in fragile circumstances. Too many graduates can't find work, and employers can't find the right people to hire. Teachers can see that their schools are not consistently producing the types of graduates that today's workplaces can readily employ. That's why in this past decade teachers have voiced increasing concern about the need to move beyond basic reading, writing, and math and help students develop high-order skills like critical thinking, creativity, collaboration, and communication—the so-called "21st-century skills" that a knowledge economy demands.

Add to this list the fact that technology is exploding into schools—at the rate of billions of dollars of devices per year. In reality, classrooms weren't designed to absorb these tools in the first place, and it falls to teachers to try to hack the system to integrate the new tools.

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## TIME FOR A CHANGE



Taken together, the effects of rapid economic, social, and technological change are impacting teachers directly. Teacher burnout is a real problem, as teachers work harder to try to fill growing gaps, ensure

everyone is “college and career ready,” and adjust to computers in their classrooms. Meanwhile, principals struggle to recruit and retain teachers for a tough and often tiring position. Most teachers and school leaders carry on, doing their best. But as they do, some are starting to look for a new solution. The traditional classroom—with its sit-and-get instruction, standardized scope and sequence, age-based grade levels, and lack of student agency—feels out of step with what students need. It feels inadequate to the task of preparing students to find jobs and become contributing, successful adults in a changing world.

Schools are not the only organizations to feel the effects of rapid economic, social, and technological change. Companies and other organizations have also had to reinvent themselves to keep up with a changing world. In 1955, America’s Fortune 500 companies included IBM, Detroit Steel, Zenith Electronics, General Motors, Proctor & Gamble, Whirlpool, Campbell Soup, and Boeing. For the most part, the culture at these companies at the time was crisp white shirts, hordes of administrative assistants, conformity to corporate policy, an eagerness to drive out variance in how work gets done, and fierce individualism—people looked out for themselves as they climbed the ladder. If they came together at all, then it was at the water cooler to talk about the weather.

Fast forward 60 years, and companies look different. Some have disappeared altogether, such as Detroit Steel and Zenith Electronics, and been replaced by newcomers like Facebook, Microsoft, eBay, and The Home Depot. Some are still around, such as IBM and General Motors, but their cultures have changed dramatically. Lou Gerstner is credited for driving the cultural change at IBM in the 1990s. He believed that the only way for IBM to regain its dominance was by replacing its individualistic culture with one that focused on teams and collaboration. He asked employees to become problem solvers, not conformists, and to change their mindsets from separate expertise to shared expertise. When employees came together at the water cooler, they began to talk about work, not the weather. Instead of worrying about process deviance, the company started to celebrate spontaneity and deviation from a standard script—in fact, there was no script. IBM’s products even reflected this new mood, as their architecture became less proprietary and more open.

Companies like IBM, General Motors, and Procter & Gamble had to change their culture to compete in a changing world. Today, the culture at America’s leading companies, including Amazon, FedEx, Google, and Starbucks, bears little resemblance to the standard corporate culture of the 20th century. These workplaces have new processes and values that reflect a more collaborative, open, entrepreneurial, and innovative spirit.

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## THE BIRTH OF THIS PLAYBOOK

The idea for this playbook arose when a former middle and high school Spanish teacher became a student at Harvard Business School. Mallory Dwinal began her career as a member of the Teach For America corps, where she taught Spanish at a struggling charter school in Washington, D.C. As she taught, she felt continually unsettled about the structures and systems that she inherited for her classroom. Was delivering Spanish lessons for 50 minutes from the front of the room really the best way to inspire her students to learn Spanish? Was the culture of separate expertise, conformity, and adherence to a standard script the best way for teachers to function? Would this culture in any way prepare students for the culture at the workplaces that awaited them after graduation?

Bothered by these questions, Mallory gained admission to Harvard Business School and continued to study the culture and people practices at the world’s most innovative and well-run organizations. She was impressed by Professor Amy Edmondson, her first professor at the business school and a leading expert in “learning organizations”—that is, organizations that facilitate the learning of their members and continuously transform themselves; these stand in contrast to the previous generation of organizations that had more of

a factory mentality, with rigid specifications, tight controls, and avoidance of the carelessness implicit in the impulse to “figure it out as you go.”

During her time at business school, Mallory grew to believe that most schools continue to be stuck in the factory mentality. She decided to open a new school after graduation, one that embodied the spirit of a learning organization.

After graduating, Mallory teamed up with David Richards, who was also working toward opening a new school. David was a respected leader at Summit Public Schools, an innovative network of charter schools designed around the principle of self-directed learning and serving students in grades 6–12. He began as a teacher, then a high school principal, and later was promoted to overseeing the schools in the California network. He left Summit Public Schools to develop plans for taking the same principles of personalizing learning and bring them to a new elementary school he intended to open. David shared Mallory’s interest in identifying the most promising people practices and culture to support his new school. To help with the effort, he recruited Jennifer Wu, a top-performing leader at Summit Public Schools, who also had experience both in teaching and professional development and in tech startups in Silicon Valley. Together, Mallory, David, and Jennifer launched the GO Pilot, borrowing the first letter from Growth Public Schools and Oxford Day Academy, the schools that Mallory and David will start after completing the pilot. (Disclaimer: The GO Pilot is not associated with the charter school network GO Public Schools.) Their goal was to get specific about the structures and processes that most innovative, successful organizations outside of education use and look for ways to translate those systems into a classroom setting. **Figure i** shows the GO researchers together.



Figure i The GO researchers: David Richards, Jennifer Wu, and Mallory Dwinal (left to right)

## LEARNING FROM RESEARCH AND PILOT TESTS

The GO researchers began by looking systematically at the structures and processes that high-performing managers put in place to create their dynamic cultures. What are these managers doing right? The researchers chose their target companies by consulting Glassdoor’s “Best Places to Work” list, case studies from Harvard Business School, and analyst reports.

This playbook tells the story of what they discovered and then how they undertook the complicated task of figuring out which of those outside practices could be translated into a school setting. The researchers partnered with three sets of teachers to pilot test their hypotheses. These teachers represented a diverse group:

- 1. Kelly Kosuga’s 9th-grade Algebra I classroom** at Cindy Avitia High School, located in East San Jose, is part of the Alpha Public Schools charter network. These were the oldest students in the pilot. Ninety-one percent of them were Hispanic and 96 percent were eligible for free and reduced-price lunch. The school was in its first year at the time of the pilot, so it offered a mostly blank canvas for trying new things.

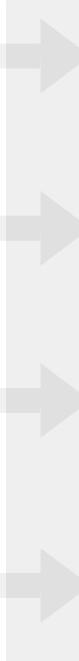
2. **Rebecca Weissman and Linda Rogers's 1st/2nd- and 1st-grade classrooms** at Redwood Heights Elementary School are part of the Oakland Unified School District. This school is a mixed-income school, and the students have diverse ethnic backgrounds.
3. **Khan Lab School**, which was made up of 65 students ages five to 14 at the time of the pilot (enrollments have since increased), is an independent school with an affluent demographic from Silicon Valley.

In running the pilots, the GO researchers were careful in choosing what not to import from outside organizations. For example, some of the companies that scored well in some areas did poorly on questions around diversity and gender balance. The GO researchers sorted the bad from the good and arrived at a list of the ideas that they believed were the most transferable and worth testing in a classroom environment.

As you evaluate these ideas and decide what might work in your settings, Mallory and David will be doing the same alongside you. Mallory plans to open the Oxford Day Academy, a grade 9–12 public charter school in the Sequoia Union High School District, located in San Mateo, Calif., in fall 2017. At the same time, David will open Growth Public Schools, a K–8 public charter school in the Sacramento City Unified School District. Both Mallory and David are using this playbook to guide their efforts and are walking this road with you.

The caveat to studying best practices is that what works in one set of circumstances does not necessarily work in another. Be choosy as you review the ideas in this playbook. They are not intended to declare the one right way; rather, they provide a sample of practices that worked in three contexts.

The playbook is divided into six chapters:

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- Chapter 1: First principles** — The best managers at highly regarded companies consistently do a few things really well. These principles of good management are at the foundation for how to run a positive, high-performance organization—and they could work for teachers to improve how they run their classrooms, too.
  - Chapter 2: Seven moves for teachers** — The hardest part can be turning high-level principles into concrete action steps. This section translates the first principles into seven practical, specific moves that teachers can make to apply the principles in their busy classrooms, even when school is already in session and day-to-day classroom life is in full swing.
  - Chapters 3, 4, and 5** — Meet the teachers at three schools that implemented pilot tests in real time during the spring 2016 semester to try out the seven moves for themselves. These chapters share tools, templates, pictures, and resources that emerged from the pilots. The moves were not easy, but they were possible and teachers were amazed by their impact.
  - Chapter 6: Lessons learned for teachers** — This chapter summarizes the main takeaways from the pilots. Turn to this chapter for a quick glance at what the teachers discovered as they took the steps to adopt practices of the most effective managers in America.

Today's classrooms were designed for different students in a different world. We hope that the stories that follow will inspire classroom teachers to make the changes within their power to transform their classrooms into the happier, higher performing organizations that students need today.

# 1

## FIRST PRINCIPLES

The GO researchers began their work with investigation. They knew that the factories of the 20th century that ushered in mass production arranged their people in assembly lines or job shops to manufacture things such as widgets and chassis. They were curious to identify the modern-day parallel. How do the companies ushering in the 21st century—companies such as Google, Facebook, LinkedIn, Medallia, and Airbnb—manage their people to produce the creative ideas and innovations that are changing how we live, learn, and relate to each other?

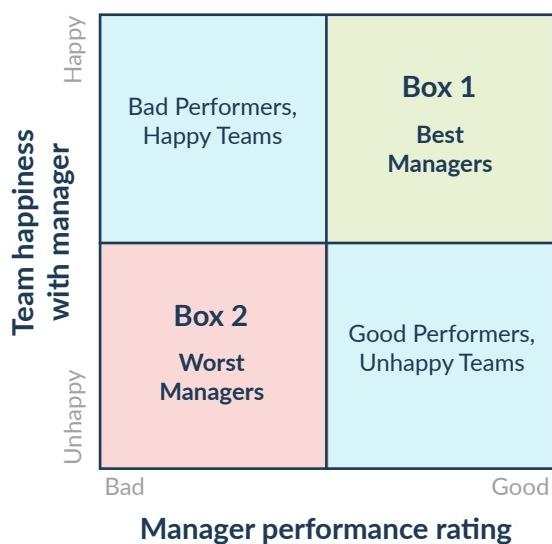
Jennifer led this discovery effort. Her research unearthed a number of people practices in common among today's high-performing organizations. For example, she discovered that Google, Facebook, and Airbnb bring together small, fluid teams comprised of people with different sets of expertise to develop their products. Facebook tells its people to "move fast, break things," Medallia says to "punch mediocrity in the face," and LinkedIn borrowed the mantra "next play" from Coach K of Duke basketball to remind employees not to dwell on mistakes or celebrations for too long.

The different companies had a variety of practices, and it wasn't until the GO researchers discovered Google's Project Oxygen that they began to notice a pattern that had real potential to help schools. A few years ago, Google put its best managers under a microscope to learn what they do that is different from what its average and worst managers do. They called this research "Project Oxygen." Google's goal was to help low-performing managers improve by copying the attributes of those who are highest performing.<sup>1</sup>

By "best managers," Google means two things. First, the best managers are those who get high-performance ratings. Their teams get a lot of stuff done well. Second, the best managers are those who have happy teams. So not only are the teams getting a lot of stuff done well, but they are also enjoying the ride. Google's best managers are those who can pull off both of these feats simultaneously, as represented by **Box 1** in **Figure 1**, and its worst managers are those who can do neither, as represented by **Box 2**.

What are the best managers doing that those on the bottom are not? It turns out that Google's best managers have eight things in common that its worst managers uniformly lack. These are the eight attributes that distinguish them:

Figure 1 How managers were sorted for Project Oxygen



Source: Laszlo Bock

1. Be a good coach.
2. Empower the team and do not micromanage.
3. Express interest/concern for team members' success and personal well-being.
4. Be very productive/results oriented.
5. Be a good communicator—listen and share information.
6. Help the team with career development.
7. Have a clear vision/strategy for the team.
8. Have important technical skills that help advise the team.<sup>2</sup>

The results from Project Oxygen might seem obvious—of course, being a good coach matters. But Google was surprised to see how many of its managers did not know how to be good coaches. Few had one-to-one meetings with their team members, or if they did, then they didn't know what questions to ask. Few knew how to give their team members helpful feedback. Project Oxygen revolutionized Google's management practices. By focusing on developing the eight attributes in its managers, Google moved its lowest-performing managers to the level of average managers two years prior and helped its average managers become excellent.

Google's findings helped the GO researchers unearth a pattern. Although the organizations in their review expressed themselves differently, they had a few things in common: almost all talked about empowering their people, almost all helped their managers be good coaches, and almost all were serious about results. These commonalities started to jump out as the GO researchers interviewed one company after another. By the end, the team had a hypothesis for three principles for teachers to follow if they want to be like the managers at the best places to work in America.

## PRINCIPLE #1: EMPOWER THE TEAM AND DO NOT MICROMANAGE

Nearly all the organizations in the GO researchers' study attribute some of their success to the way that they empower their teams and reduce managers' control over their people. This work of empowering employees begins the moment a new hire joins the organization.

**Onboarding:** Medallia, a Silicon Valley company that sells software to help other companies improve the customer experience, has a weeklong onboarding requirement that includes reading *Daring Greatly* by Brene Brown and doing activities to overcome fear. LinkedIn assigns a mentor to new hires to help them transition into the company culture. Facebook provides a six-week onboarding bootcamp for new engineers during which they work on real projects and select a team by the end of the six weeks.

**Mindset development:** Once aboard, employees experience a range of activities to amplify the mindsets they will need to thrive at work. Facebook displays posters that encourage a culture of “move fast, break things” and “done is better than perfect.” Although mistakes in the code can cost millions of dollars, Facebook leaders encourage employees to make bold decisions and take risks. When serious errors occur, teams schedule a review meeting—not to assign blame, but to discuss what happened, why, and how to avoid the error in the future.

Medallia's leaders model growth mindset. At all-hands meetings, they openly share their mistakes and their plans to fix them. They are careful to push decision-making authority down to their people. They let them know when they disagree, but decisions are ultimately those of the employees, who are then held accountable for the results. Airbnb has a similar bottoms-up process for making decisions.

LinkedIn and Google nurture the mindsets of creativity and passion. LinkedIn organizes hackdays once a month, when engineers work on teams of up to five people to solve problems that they find personally engaging. Teams present their projects live to the entire company for judging. Google gets a similar result by encouraging its engineers to work on projects of their own choice for 20 percent of the time.

**Encouraging flexible teams:** Google and Facebook form teams around projects, products, and problems. Because teams are fluid, employees get to know and work with different colleagues. Airbnb puts its employees into self-governing teams as large as 10, selecting individuals who collectively represent the different skills required to achieve a task. Bell Labs does a similar thing, but requires that both “doers” and “thinkers” be present on every team. They also create the space for team members to learn from one another and to problem solve without much direct support from the team manager. At all these companies, employees depend upon one another; as the motto at Bain & Company says, “a Bainie never lets another Bainie fail.”

## PRINCIPLE #2: BE A GOOD COACH

The second set of ideas that nearly all the organizations share is that managers must be good coaches. In Project Oxygen, Google identified good coaching as the number one attribute of its best managers, and Google is not alone. Bain, General Electric, and Facebook all frame the manager’s central purpose as that of a coach.

According to Project Oxygen, if one were to ask a typical Googler what makes for a good manager, then the response would include the following:

- My manager gives me actionable feedback that helps me improve my performance.
- My manager doesn’t “micromanage” (i.e., get involved in details that should be handled at other levels).
- My manager shows consideration for me as a person.
- My manager keeps the team focused on our priority results/deliverables.
- My manager regularly shares relevant information from his/her manager and senior leadership.
- My manager has had a meaningful discussion with me about my career development in the past six months.
- My manager communicates clear goals for our team.
- My manager has the technical expertise (e.g., coding in tech, accounting in finance) required to effectively manage me.
- I would recommend my manager to other Googlers.<sup>3</sup>

Other companies share elements of this checklist. Good managers at Facebook help employees find appropriately sized problems to tackle given their career development; at Bain, the staffing manager determines assignments in line with employees’ personal interests and professional development needs; and at Airbnb, managers frame their job as one of an advocate and career developer.

Deloitte recently instituted “radically frequent check ins”—at least once a week, but even more if possible. The brief conversations allow team leaders to comment on recent work, talk about priorities and goals, suggest course corrections, and provide coaching. Deloitte found that the best way to divide a team leader’s time is by having team members request one-on-one meetings when they need them, rather than having the team leaders schedule them.<sup>4</sup>

## PRINCIPLE #3: EMPHASIZE ACCOUNTABILITY

The third common finding relates to accountability. Managers at leading organizations are committed to holding their people and themselves accountable for results. Being productive—in the sense of getting strong results for every dollar spent—is a big deal.

One structure that many companies use to monitor goals and outcomes is *Objectives and Key Results* (OKRs). John Doerr, a noted venture capitalist, is credited with introducing OKRs to Google, and the idea then spread to Facebook, Airbnb, Medallia, and many others. *Objectives* define what the company, team, or individual wants to accomplish and typically are subjective or qualitative. *Key results* are concrete, specific, and measurable. They describe how an objective will be accomplished and measure whether it is accomplished or not. Individual OKRs roll up to team OKRs, so if every individual accomplishes his or her OKRs, then the team does as well. Team OKRs roll up to company OKRs. A key benefit of OKRs is the ability to focus and monitor progress toward goals. Other organizations have different ways of setting goals and tracking results. But without exception, the practice of setting, tracking, and sharing clear goals is consistent.

Some might say that schools are already focused on accountability—too much so, in fact. But usually the focus is on accountability to the state and federal government. What classrooms need more of are students and teachers feeling accountable to *themselves*, based on their personal growth goals and weaknesses.

## GUT CHECK WITH EDUCATION RESEARCH

The first principles that the GO researchers unearthed seem reasonable, but Mallory, David, and Jennifer had their doubts. In many ways, schools are nothing like other organizations, especially for-profit ones. After all, classrooms have no profit motive; they are charged with preparing all students for college and career success, without any choice in which students to hire and fire; and they are beholden to stiff regulatory requirements to a much greater degree than in the private sector.

Upon reflection, however, the team realized that the first principles it discovered among top managers at leading companies are closely in line with good teaching practices validated by a wide body of education research. In fact, they are surprisingly identical. In 2011, the Educational Endowment Foundation conducted a meta-study that looked at the wide range of interventions that schools in Great Britain used to improve the academic performance of five to 16 year olds.<sup>5</sup> Its meta-study reviewed everything from A to Z, including everything from “after-school programmes,” “arts participation,” and “aspiration interventions” at the beginning of the list, to “school uniforms,” “social and emotional learning,” “sports participation,” “summer schools,” and “teaching assistants” at the end. The meta-study found that the following interventions produce the most months of impact on average:

- 1. Collaborative learning:** Learning tasks or activities where students work together in a group small enough for everyone to participate in a collective task that has been clearly assigned.
- 2. Feedback:** Information given to the learner and/or teacher about the learner's performance relative to learning goals. It should aim to produce improvement in student learning.
- 3. Mastery learning:** Mastery learning breaks subject matter and learning content into units with clearly specified objectives, which are pursued until they are achieved. Students must demonstrate a high level of success before progressing to new content.
- 4. Metacognition and self-regulation:** Learning-to-learn approaches that help students think about their learning more explicitly. This is usually by teaching students specific strategies to set goals and monitor and evaluate their own academic development.
- 5. One-on-one tuition:** One-on-one tuition, or tutoring, is where a teacher, teaching assistant, or other adult gives a pupil intensive individual support.
- 6. Oral language interventions:** Actions that emphasize spoken language and verbal interaction in the classroom, such as reading aloud and discussing books, and the use of structured questioning to develop reading comprehension.
- 7. Peer tutoring:** A range of approaches in which learners work in pairs or small groups to provide each other with explicit teaching support. The common characteristic is that learners take on responsibility for aspects of teaching and for evaluating their success.
- 8. Reading comprehension strategies:** Helping learners understand texts by using graphic organizers, developing questioning strategies, and having students monitor their own comprehension, to name a few.<sup>6</sup>

Interestingly, these interventions match up with the findings from the GO researchers' study. **Table 1.1** aligns the GO researchers' first principles with the similar interventions that the Educational Endowment Foundation named as longest impact.

Table 1.1 Comparison of most important management principles and student interventions

Common attributes of high-performing managers	Best bets for student interventions
Empower the team and do not micromanage	<ul style="list-style-type: none"> <li>● Collaborative learning</li> <li>● Peer tutoring</li> </ul>
Be a good coach	<ul style="list-style-type: none"> <li>● Feedback</li> <li>● Individual tutoring</li> <li>● Oral language interventions</li> <li>● Reading comprehension strategies</li> </ul>
Emphasize accountability	<ul style="list-style-type: none"> <li>● Mastery learning</li> <li>● Metacognition and self-management</li> </ul>

Sources: Google Oxygen Project and GO researchers' research and Education Endowment Foundation

None of the ideas in either column of **Table 1.1** is new. For decades, educators have touted the importance of teachers serving as coaches, deploying team-based learning, providing actionable feedback, and so on. This insight helped allay any misgivings about trying to import ideas from companies into classrooms. Despite their differences, managers at leading organizations and classroom teachers agree that the principles in **Table 1.1** make sense. The problem for teachers, however, is that it's hard to do all these interventions consistently. The traditional classroom is not designed to make that easy. So it's reasonable to believe that teachers can look to top managers at well-run organizations for ideas about how to plant high-impact interventions more firmly and seamlessly into their classroom routines.

The GO researchers decided to use the three principles of empower the team, be a good coach, and emphasize accountability as the guiding ideas for the pilots. The next chapter defines the moves that the teachers in the pilots made to turn these principles into practical action steps.



# 2

## SEVEN MOVES FOR TEACHERS

In the game of chess, it's possible to beat your opponent in only two moves. With the simple move of a pawn and queen, and given two bad moves from your opponent, the game ends in checkmate.

How many moves does it take for a teacher to convert a relatively traditional strategy of teaching students in a classroom into a strategy that matches how the top managers help their employees become high performing and happy in a cutting-edge workplace? From the work that the teachers did in the GO Pilot, the answer appears to be somewhere around seven. Granted, Khan Lab School had already made several of the moves well before the pilot, and the teachers at the other two schools had done some of the work on their own before the GO researchers showed up as well. But collectively, once all of the teachers had made all seven of the moves either before or during the pilots, their rooms had more of the vibe of one of Glassdoor's "Best Places to Work" than of a traditional, teacher-led classroom. For the most veteran teacher, it was an astonishing transformation. "In a few short weeks I experienced more mindset change than in my 30 years of teaching," she said.

The GO researchers began the pilots with the three principles from Chapter 1 in mind: to empower their teams and not micromanage, be good coaches, and emphasize accountability. But they still lacked concrete answers about the most efficient path teachers should take to apply those principles in busy, active classrooms in real time. It was the proverbial "building the plane while flying it" problem, which the teachers in the pilots had committed bravely to attempting. By the end of the pilots, thanks to their efforts, that path emerged. It took the form of seven moves, which **Table 2.1** summarizes.

Table 2.1 Seven moves for teachers to create happier, higher performing classrooms

First principles	Moves for teachers to create happier, higher performing classrooms
Empower the team and do not micromanage	<ol style="list-style-type: none"><li><b>1. Teach mindsets.</b> Develop the mindsets of agency, creativity, growth mindset, and passion for learning.</li><li><b>2. Release control.</b> Provide content and resources that students are free to access without your direct instruction. This control gives them ownership, develops their agency, and frees up your time.</li><li><b>3. Encourage teaming.</b> Foster peer-to-peer learning and dynamic, team-based collaboration.</li></ol>
Be a good coach	<ol style="list-style-type: none"><li><b>4. Give feedback.</b> Create a culture of feedback so that students receive personal, frequent, and actionable feedback in the moment, in small groups, and in one-on-ones.</li><li><b>5. Build relationships of trust.</b> Show interest and concern in students as individuals and trust in their ability to drive their own learning, given the right structures are in place.</li></ol>
Emphasize accountability	<ol style="list-style-type: none"><li><b>6. Help students hold themselves accountable.</b> Give them tools to set goals, track their progress, and follow through.</li><li><b>7. Hold yourself accountable.</b> Use reflection time, peers, student surveys, and self-assessments to make sure that you are on track personally.</li></ol>

By the end of the pilot, these seven moves stood out as the most critical for creating the dynamic classroom cultures that the GO researchers and teachers in the pilots had in mind. The next three chapters of this playbook tell how the teachers in the pilots implemented each move. But first, the following overview provides some context about what each move means so that references to them in the chapters that follow are clear.



## MOVE #1: TEACH MINDSETS

Develop the mindsets of agency, creativity, growth mindset, and passion for learning.

Let's be honest, the first thing America's leading organizations do to create amazing teams is to hire amazing people. Some would say that teachers are at a disadvantage right from the start, as they lack the power to select their dream team of students to fill their rosters each year.

But well-run organizations do not depend on hiring alone to build their teams. Nearly all of the organizations that the GO researchers reviewed said that they make a big effort to articulate, nurture, and demand a set of core values and dispositions among their employees through carefully designed structures and manager/employee interactions. For the purposes of this playbook, we call these core values and dispositions mindsets. A mindset is a mental attitude or inclination that predetermines how a person will respond to a given situation. Well-run organizations take intentional actions to ensure that their people will respond to situations according to the organization's values.

The GO researchers found that the leading organizations in their review cite five mindsets as a top priority for new recruits:

- Agency** - the initiative and capacity to act in a desired direction or toward desired goals<sup>7</sup>
- Creativity** - defining problems, arriving at solutions<sup>8</sup>
- Growth mindset** - belief that abilities can be developed through effort and persistence<sup>9</sup>
- Passion** - genuine interest in learning<sup>10</sup>
- Teaming** - flexible teamwork to tackle problems and identify emerging opportunities<sup>11</sup>

Schools usually can't select for these mindsets in advance of enrolling students. Luckily, however, mindsets can be taught. So teachers must be smart about embedding activities into the student experience that nurture the mindsets that their students will need. Mindsets are about students learning to learn—a vital prerequisite to mastering academic content. By nurturing mindsets, teachers empower their teams of students.



## MOVE #2: RELEASE CONTROL

Provide content and resources that students are free to access without your direct instruction. This control gives them ownership, develops their agency, and frees up your time.

The second move is to release control to students so that they can make progress without waiting for the class or teacher and practice the mindset of agency. To do this, a teacher must free students from teacher-delivered instruction and give them content and lessons that they can learn independently.

The traditional classroom model does not lend itself well to students learning independently. Its instructional format is predominantly face-to-face, teacher-delivered lectures or demonstrations of the material, and each cohort of students works through a single, unified curriculum at the pace of the whole group. Other learning models are arising, however, that open broad possibilities for teachers to empower students to drive their own learning while teachers shift to helping students in other ways. The main technical innovation behind

these new models is online learning, which simplifies the task of putting content and lessons directly in the hands of students for them to control themselves. As we'll see in the next chapters, all three sites leverage online learning to make Move #2. The term *blended learning* in the chapters that follow is defined as follows:

### **BLENDED LEARNING**

Blended learning is a formal education program in which a student learns at least in part through online learning with some element of student control over time, place, path, and/or pace and at least in part at a supervised brick-and-mortar location away from home. The modalities along each student's learning path in a course or subject are connected to provide an integrated learning experience.<sup>12</sup>



## **MOVE #3: ENCOURAGE TEAMING**

Foster peer-to-peer learning and dynamic, team-based collaboration.

Amy Edmondson, a professor at Harvard Business School, is known for her research on *teaming*, the idea that in today's fast-paced world, organizations cannot rely on stable teams; instead, they must embrace a culture of teaming—people coming together impromptu to work on a shifting mix of projects with a shifting mix of partners. She explains:



Teaming is about identifying essential collaborators and quickly getting up to speed on what they know so you can work together to get things done. This more flexible teamwork (in contrast to stable teams) is on the rise in many industries because the work—be it patient care, product development, customized software, or strategic decision-making—increasingly presents complicated interdependencies that have to be managed on the fly. The time between an issue arising and when it must be resolved is shrinking fast. Stepping back to select, build, and prepare the ideal team to handle fast-moving issues is not always practical. So teaming is here to stay.



Amy Edmondson

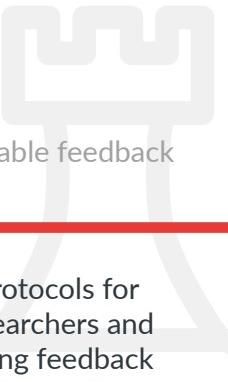
According to Edmondson, teaming is more like a pickup basketball game than plays run by a team that has worked together for years. She believes that teaming is not only something that some individuals and companies have to do, but it's something that they should want to do. Organizations and people who learn to team are able to solve complex, interdisciplinary problems; develop a more unified culture; complete a wider range of assignments; and manage unexpected events.<sup>14</sup> This is the type of collaboration that the GO researchers and teachers had in mind when they used the word "teaming" during the pilots.



## **MOVE #4: GIVE FEEDBACK**

Create a culture of feedback so that students receive personal, frequent, and actionable feedback in the moment, in small groups, and in one-on-ones.

In schools, the term feedback is often associated either with formal assessments and grading protocols for students or high-stakes performance reviews for teachers. Neither of these is what the GO researchers and teachers in the pilots mean when they use the term. In the chapters that follow, the idea of giving feedback is more akin to a coach who watches his or her players from the sidelines, studies them at practice, reviews the post-game footage, and then meets with them to talk about ways that they can improve. Feedback can take the form of one-on-one meetings, small-group sessions with hand-picked groups that need a particular



feedback message, and written notes and comments—all done with the intent to improve performance, not to reward or punish. It can include both the positive (praise) and the constructive (ideas for improvement). In the pilots, teachers gave various types of feedback, including academic feedback, project-based feedback, and mindset feedback, which the chapters that follow will showcase.

Deloitte's practice of "radically frequent check-ins" exemplifies this idea of making developmental feedback central to an organization's culture. The company's belief: "If you want people to talk about how to do their best work in the near future, they need to talk often." Deloitte found in its testing a direct correlation between the frequency of check-ins and the engagement of team members. "Very frequent check-ins ... are a team leader's killer app."<sup>15</sup> Deloitte is not alone in its commitment to regular, one-on-one feedback opportunities. In fact, nearly every high-performing organization studied in this project had established some version of the one-on-one check-in to ensure that team members received the feedback they needed to learn and grow.



## MOVE #5: BUILD RELATIONSHIPS OF TRUST

Show interest and concern in students as individuals and trust in their ability to drive their own learning, given the right structures are in place.

Move #5 refers to the human element of coaching—the relationship piece between the manager and the employee or, in the case of schools, between the teacher and the student. From the Project Oxygen data, Google found that two of the nine actions that employees say distinguish the best managers from the worst relate to their ability to build relationships of trust:

- My manager shows consideration for me as a person.
- My manager has had a meaningful discussion with me about my career development in the past six months.<sup>16</sup>

Former *New York Times* columnist Paul Tough has drawn attention to the impact that a strong relationship with a mentor can make even for seemingly irrecoverable youth. In his book *How Children Succeed*, Tough makes the case that a loving, consistent mentor has the power single-handedly to change the course of a student's life, "rewire a personality," and achieve a rapid transformation against even the sturkod odds.<sup>17</sup>

Tough's colleague at the *New York Times*, David Brooks, pins the problem to the broader societal changes in the functioning of families and communities. He wrote:

“

Education is one of those spheres where the heart is inseparable from the head. If students are going to succeed, they probably need to come from a home where they feel safe and secure, so they aren't paralyzed by anxiety and fear ... They probably need to have been bathed in love so they have some sense of identity.

For years, schools didn't have to think about love because there were so many other nurturing social institutions. But recently the family has frazzled and community has frayed. Today many students come to school lacking a secure emotional base ... Today we have to fortify the heart if we are going to educate the mind.<sup>18</sup>



David Brooks

- Whenever teachers in the pilots take action to develop and improve their mentoring relationships with students, those action steps are grouped in Move #5. This move also encompasses any actions that the teachers take to learn to trust *their students*. After all, trust must go both ways. Move #5 includes both students growing to trust their teachers and teachers growing to trust their students.



## MOVE #6: HELP STUDENTS HOLD THEMSELVES ACCOUNTABLE

Give them tools to set goals, track their progress, and follow through.

Cutting-edge organizations that give employees ownership and hire for and nurture the skill of agency balance that trust with a thoughtful accountability system. Ownership and accountability, out of necessity, go hand in hand. Companies such as Google, Facebook, Airbnb, and Medallia rely on Objectives and Key Results (OKRs) to help their people cycle through a system of setting transparent goals, learning, tracking their progress, taking stock of where they are, and pausing to reflect about how to improve before beginning the cycle anew.

The term *accountability* can stir negative associations in the education sector, as it conjures images of top-down oversight. That's not the type of accountability that this playbook has in mind. Rather, Move #6 is talking about any structures and systems that the teachers in the pilots put in place to help their students learn to set goals, track them, and follow through.



## MOVE #7: HOLD YOURSELF ACCOUNTABLE

Use reflection time, peers, student surveys, and self-assessments to make sure that you are on track personally.

Great managers at the best-run organizations not only hold their people accountable, but they hold themselves accountable. They learn to use surveys and other feedback to create an action plan for personal improvement.

Twice a year, employees at Google complete an Upward Feedback Survey to give anonymous feedback to their managers. Do their managers give them actionable feedback that helps them improve? Do they refrain from micromanaging? Do they show consideration for them as a person? Employees give candid feedback on these and other questions about their bosses. Google shares Upward Feedback Survey results with its managers. Importantly, it does not use these results to determine managers' compensation or career outcomes. Instead, it shares the results to alert and motivate managers to improve in as positive a way as possible.<sup>19</sup>

Sebastian Marotte, a VP of sales in Europe, said that his first Upward Feedback Survey results were a disaster. They caused him to question if he had made the right choice in accepting a job at Google or whether he was on the wrong team. But then he discussed the results with his HR business partner. They reviewed all of the comments and came up with a plan. He made important changes to how he coached his team. Within two survey cycles Sebastian raised his favorable ratings from 46 percent to 86 percent. "It's been tough, but very rewarding," he said.<sup>20</sup>

In the pilots, Move #7 encompasses the structures and routines that ensure that the teachers are requiring of themselves the same commitment to setting goals, learning, tracking progress, reporting, and reflection that they expect of their students.

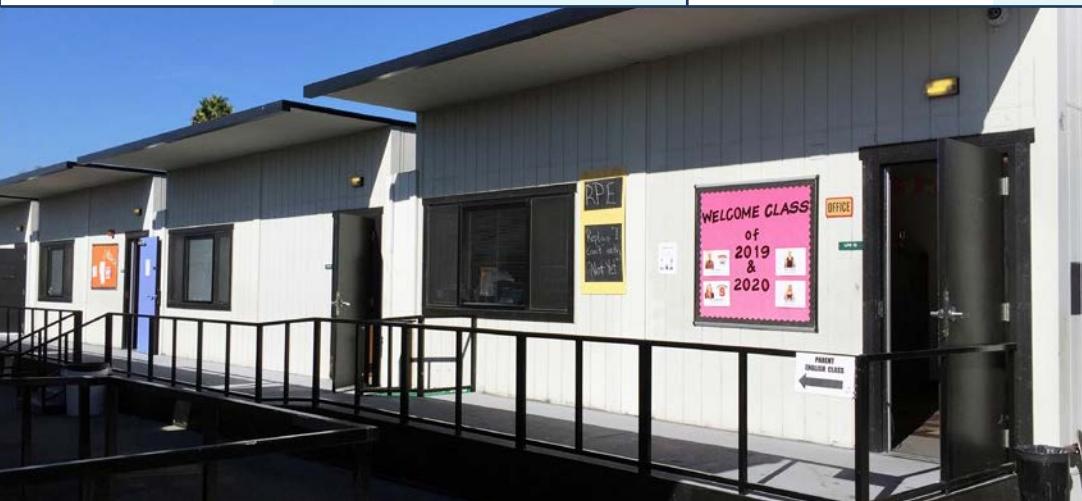
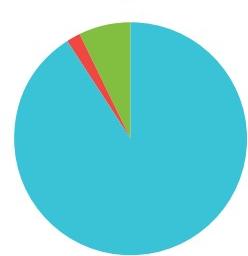
# 3

## KELLY AT ALPHA PUBLIC SCHOOLS

At the beginning of 2016, the GO researchers asked Alpha Public Schools (Alpha), which runs two middle schools and a high school in East San Jose, Calif., to participate in the pilot. Alpha's leaders recommended that Kelly Kosuga, a math teacher at the Cindy Avitia High School and one of the most experienced teachers in the Alpha network, participate. This is the story of what unfolded in spring 2016 as Kelly took the challenge to improve her Algebra I classroom.

Significantly, Cindy Avitia High School had been open for only five months at the start of the pilot; the academic program was still mostly a blank canvas. But a few strategies were already defined. The principal, Will Eden, had expertise in blended learning and had begun to use it for core academics. He also planned to nurture social and emotional learning (SEL). These strategies were intended to support the ultimate goal at Cindy Avitia High School, which was to put students on the path to college success. Will's hope was that the GO Pilot would allow Kelly to discover successful moves that could be incorporated into the high school's evolving academic model.

**Snapshot of Cindy Avitia High School: All data is for the 2015–16 school year**

<b>Year opened</b>	2015–16	<b>Location</b>	San Jose, Calif.
<b>Grades served</b>	9 (with plans to serve through grade 12 in subsequent years)		
<b>Type of school</b>	Public charter	<b>Charter network</b>	Alpha Public Schools
<b>Total students</b>	150 (9th graders only) for Year 1		
<b>Student-to-teacher ratio</b>	40-to-1	<b>Free and reduced-price lunch</b>	96%
		<b>Student ethnicity</b>	 <p>91% Hispanic, 2% Asian, 7% Other</p>

## MEET KELLY KOSUGA

Kelly is a founding math teacher at Cindy Avitia High School, which opened in 2015 with its first 150 9th-grade students. Alpha plans to add a new grade level each year until it serves grades 9–12. Kelly joined Alpha with over six years of teaching experience, having taught high school math and Japanese in Arkansas and Tennessee and conversational English in Japan. During the pilot, Kelly taught four periods of Algebra I to all 150 students, with up to 40 students per class. They usually met with her twice a week for 100-minute blocks. As was true across the school, the demographic profile of Kelly's students was mostly low income and of Hispanic descent. **Figure 3.1** shows Kelly in her classroom.

Throughout the pilot, Kelly proved masterful at trying new structures and relentlessly fine tuning them. Her involvement led to many discoveries for the GO researchers because she maximized every minute of the pilot time.



Figure 3.1 Kelly helps a student with an online lesson

### LIFE IN KELLY'S CLASSROOM BEFORE THE PILOT

When the GO researchers first set foot in her classroom, Kelly was halfway through the 2015–16 school year. Her students began the math period by dividing into three stations: Solo Station (independent work), Peer-to-Peer (pair work), and Guided Group (teacher-led instruction). Each student spent 25 minutes in each station before rotating—a classic Station Rotation blended-learning model.

Kelly gave most of her attention to whichever group of students was in Guided Group at the time, and she lamented that she could not clone herself so that there could be someone to monitor and help students at the other two stations. Each class concluded with a quick formative assessment and a celebration of Scholar of the Class—a school-wide tradition of choosing three students each class period who demonstrated Alpha's core values.

In contrast to the other two pilots that Chapters 4 and 5 discuss, Kelly had a fresh canvas at her very new school upon which to experiment with multiple ways to make each of the seven moves. What follows is a description of the various things she tried. The area where she made the most important discoveries was with empowering her teams through Moves #2 and #3, so that's where we'll spend most of our time.



### MOVE #1: TEACH MINDSETS

Develop the mindsets of agency, creativity, growth mindset, and passion for learning.

When it comes to teaching mindsets, there are two schools of thought. Some teachers find success in explicitly teaching, practicing, and assessing them. Others think that the way to improve character is not by actually talking about character; instead, they create environments that naturally develop and exercise noncognitive skills, such as allowing quiz retakes and assigning projects that require collaboration to complete.

Kelly tried the first approach at the start of the pilot, which she kicked off by introducing a mindset rubric for students to use to measure their growth from the beginning to the end of the pilot through self-, peer-, and teacher-assessment. She planned on monthly assessments so that students could monitor their progress.

**Figure 3.2** shows how she organized that data. She also taught mini-lessons about the mindsets by watching short video clips with her students and discussing them.

Figure 3.2 Sample of a 360 Mindset rubric that students received (1=low, 4=high)

	SELF		TEACHER		PEER AVERAGE	
	Mar	Apr	Mar	Apr	Mar	Apr
<b>PASSION</b> Genuine interest in learning	4	3	1	2	2.5	2.7
<b>CREATIVITY</b> Defining problems, arriving at solutions	3	3	1	2	2.5	3.3
<b>GROWTH MINDSET</b> Belief that abilities can be developed through effort and persistence	4	3	2	2	2.5	3.3
<b>TEAMING</b> Valuing and supporting others, leadership	3	3	2	2	3.0	3.0
<b>AGENCY</b> Ownership, empowerment	4	3	2	2	2.0	3.0

By April, it became apparent that the process wasn't useful for students. They weren't bought in, rarely referred to the rubric, assessed themselves and their classmates with little thought, and didn't engage in structured, reflective conversations. Kelly thought the problem was that the rubric was too abstract. Her students needed to understand the concrete behaviors that evidence passion, creativity, growth mindset, teaming, and agency, rather than get lost in ideas that didn't feel immediately applicable to passing Algebra. She worked with Jennifer Wu to create a **Checklist of Habits**, which is included in **Appendix 3.1** at the end of this chapter. The Checklist of Habits is a list of behaviors that her students can choose to do if they feel stalled in reaching their goals. For example, the five recommended growth mindset behaviors are:

- If I don't understand something at first, then I try different strategies to learn it (e.g., write problem on paper, use the whiteboard, ask several different people for help).
- If I get a question wrong on a quiz, then I'll try to understand why.
- I will practice before I retake quizzes to improve my scores.
- I will keep working on IXL to improve my score.
- I'm not afraid to try something challenging; if I fail, then I try to learn from it.

In total, the Checklist of Habits offers 18 specific behaviors to help students if they want to improve in math and develop the mindsets. They are actionable and observable. When Kelly met one-on-one with students, she referenced the Checklist of Habits by saying, "Which behavior do you want to try this week so that you can pass Algebra I this year?"

Kelly introduced the Checklist of Habits only a few weeks before the pilot ended for the summer. From anecdotal evidence, however, the 9th graders had a strongly favorable response, such that Kelly planned to keep working with and improving it when school resumed.

TO SUM UP	
Lessons learned	Impact
Focus on actionable and observable behaviors associated with each mindset, such as with a checklist of habits.	By the end of the pilot, students made the connection between mindsets, behaviors, and academic success—a big ah-ha.



## MOVE #2: RELEASE CONTROL

Provide content and resources that students are free to access without your direct instruction. This control gives them ownership, develops their agency, and frees up your time.

From the start of the pilot, Kelly sensed that freeing up her time so that she could be responsive to students' individual needs in a flexible way was one of the top moves she could make. She wanted to release control as a teacher and put her students squarely in the driver's seat of their learning. That single move would free her to coach each student; nurture the mindsets of agency, teaming, and growth mindset; and lead to all of her 9th graders having the tools, time, habits, support, and structures they needed to complete Algebra I by the end of the year.

The primary way that Kelly made this move was by transitioning from a Station Rotation model of blended learning, in which students rotate on a *fixed* schedule among learning modalities, to a Flex model, in which students work within a *flexible* schedule that allows them to access the resources they need at the moment.

Before the pilot began, Kelly had a standard three-part Station Rotation that featured 25-minute stints of independent work; teacher-led, small-group direct instruction; and a collaborative assignment to do with a peer. Students rotated through this Solo/Guided Group/Peer-to-Peer cycle each day for 100 minutes.

## REDUCING TEACHER-DIRECTED INSTRUCTION

Kelly's frustration was with the Guided Group station. She didn't like that she couldn't keep tabs on what the students were doing at the other two stations when she was consumed with delivering direct instruction at her teacher-led station. Also, she could not differentiate this direct instruction to a smaller size than three groups, even if some students needed something more specific. She wondered if she could do away with the direct-instruction station entirely so that she could circulate. She also wanted a more flexible system for peers getting help from each other when they needed it.

Kelly developed a new classroom routine, which—although it changed frequently as she fine tuned—more or less took the shape of the schedule in **Table 3.1**. Kelly projected this schedule onto a screen each day, along with a digital timer that counted down the minutes for each activity. As Kelly relaxed from stations to work sprints, her model morphed from a Station Rotation to a Flex. The fixed increments of time dedicated to each learning modality gave way to a more flexible approach that varied according to students' needs during each work sprint.

Table 3.1 Kelly's new schedule

Time	Activity	Description
3 minutes	Team Standup	Each team member stands and reports to her team on what she's working on, what obstacles she's facing, how she plans to make progress, etc.
35 minutes	Work sprint	Independent work with help from peers as necessary
15 minutes	Day 1: Team builder  Day 2: Mindset activity  (Class alternated between these two)	Team builder is a group activity to provide a break from work and develop trusting relationships with team members.  Mindset activity is reflection and sharing about mindset goals.
35 minutes	Work sprint	Independent work with help from peers as necessary
5 minutes	Self-reflection	Reflection about mindset goals or Checklist of Habits
3 minutes	Shout-outs	Celebration of students who exemplified Alpha's core values and/or the mindsets

## PROVIDING TOOLS THAT ENABLE INDEPENDENT LEARNING

Within this new design, students spent most of their time doing “work sprints,” during which they worked independently through the math curriculum, getting help from their peers on a “need help/give help” basis. Before the pilot, Kelly was using a paper-based version of the College Board’s SpringBoard Algebra I curriculum. Kelly liked that SpringBoard provided students with math-related writing and reading exercises. Its drawback was that the paper-based version did not provide real-time feedback to students, which made it hard for them to see their progress and was demotivating if students were stuck. Also, it could not generate different problems sets for each student, which meant that students could easily copy each other’s answers. **Figure 3.3** shows one of Kelly’s students checking his SpringBoard work on the class’s shared copy of the answer key.

As part of the pilot, Kelly switched to IXL Math as the curriculum for work sprints. She made that switch because IXL offers the benefit of providing just-in-time help and automatically tracking students’ scores as they go, which makes it easy for them to set daily goals. Kelly noticed that students felt motivated as they set goals, controlled their own progress, and saw their daily gains. IXL did not provide math-related reading and writing exercises, however, so the content was more procedural than aimed at conceptual understanding and critical thinking. Kelly planned to supplement IXL the following year with occasional SpringBoard activities.



Figure 3.3 One of Kelly’s students uses the SpringBoard answer key to check his work

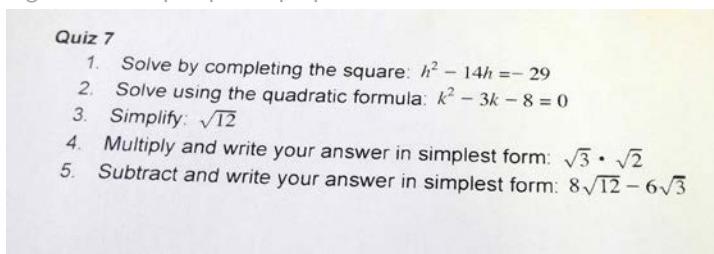
## SCAFFOLDING THE PROCESS

Kelly released control to her students gradually by slowly increasing the length of the work sprints. At the start, Kelly used three 25-minute work sprints and set specific times for quizzes. As students got used to the system and built endurance, she lengthened the work sprints to 35 minutes each. She also let students choose when to take quizzes during the work sprints.

Although students had more control, they still had guardrails. The first guardrail was a pacing guideline. Kelly gave the students a calendar and showed them how to plan out the number of IXL assignments they needed to complete each week to stay on track. If they needed more time, then they could complete them in Learning Lab after school.

The second guardrail was formative assessments. Alpha set school-wide targets for where students needed to be in learning Common Core standards and scheduled interim assessments to check for that progress. In turn, Kelly mapped out suggested mileposts for students to hit to be ready for the interim assessments. She prepared bi-weekly quizzes, such as the paper-based quiz in **Figure 3.4**, for students to show that they were on track for the interims. Although students were allowed to retake quizzes, all Algebra I students took the same quizzes for the first time on the same weeks—an indication that the system did not yet allow for competency-based progression.

Figure 3.4 Sample quiz to prepare for an interim assessment



Thinking ahead to next year, Kelly planned to make the students' pacing and planning task easier by scheduling quizzes once a week—every Tuesday—and creating quizzes that tested precisely five assignments on IXL. That way the students would know that they needed to complete one assignment per school day to be ready for the weekly quiz. She would allow students to retake quizzes if they wanted a better score, but only if they showed that

they were up to date in completing their IXL assignments. Students' performance on quizzes and interim assessments counted toward their final grades. Kelly graded both manually.

Kelly tried doing exit tickets every day as well, but decided that was too frequent. Some students completed more than one IXL assignment per day, whereas others did fewer. A weekly schedule for quizzes seemed better.

TO SUM UP	
Lessons learned	Impact
Reduce the amount of teacher-directed learning, such as eliminating a Guided Group station.	Kelly shifted from using big chunks of time for teacher-led instruction to devoting nearly the entire math block to student-driven learning.
Provide tools that enable independent learning, such as online-learning software.	Students' productive use of work time dramatically improved through the course of the pilot. By the end of the pilot, Kelly rarely needed to redirect students toward their work and students even requested more time to get work done.
Scaffold the process, such as by gradually increasing the length of the work sprints, keeping a minimum pace, and using formative assessments.	



## MOVE #3: ENCOURAGE TEAMING

Foster peer-to-peer learning and dynamic, team-based collaboration.

During the pilot, Kelly switched from a Peer station, as part of a Station Rotation model, to a more flexible system for peer collaboration. At first she told students to “work together,” but then realized that a more accurate description of what she had in mind was for team members to serve as each other’s first line of defense. She coached them to feel comfortable asking for and giving support when they needed it. The Checklist of Habits was particularly helpful in encouraging good teaming behavior, such as “I check in with my teammates to see how they’re doing” and “If I need help, I ask my teammates for help.”

### GETTING THE CLASSROOM AND TEAMS IN PLACE

Kelly tried various sizes of teams with different table layouts. She experimented with dividing her roughly 40 students per class period into groups of 10, eight, and four. She tried long, extended table layouts and “V”-shaped table layouts. Within a few months, she settled on teams of eight seated facing each other in a square arrangement of the tables. **Figure 3.5** shows students sitting together in a team.

Kelly changed up the teams each month. In general, students responded favorably to the team setup. “Different teams allow us to work with new people, which I personally find fun,” one said. “I actually like it and my group can talk and stuff like that, but we still finish the work.” Another said: “I really like how we are in groups and just help each other.” Some students, however, complained that the monthly switches were hard. A few also noted that the changes caused confusion and required too much adaptation.

Each month, Kelly also asked for volunteers to serve as the team leads. She offered a brief training to help team leads understand how to serve their teams. **Figure 3.6** shows the welcome email that Kelly sent to team leads to brief them on their mission.

Figure 3.5 Students seated in a square help each other during a work sprint



Figure 3.6 Welcome email for new team leads

**Congratulations!** You have been selected for the role of team leader from March 15 until April 15. This is an exciting opportunity for you to begin developing our target mindsets in others! You can view your assigned team members [here](#).

**Your responsibilities will include:**

- Facilitating the Opening Stand-up and Team Closeout every class
- Facilitating discussion and goal setting for the Mindset Snapshot
- Finding ways to develop our target mindsets (passion, creativity, growth mindset, teaming, and agency) in your team members
- Collaborating with other team leaders during designated Flextime to devise systems or strategies to use within your team

Our first Flextime for team leader collaboration will be **Monday March 21**. We will go over how to facilitate discussion and goal setting for the Mindset Snapshot. You should also be prepared to discuss any challenges you are facing as a team leader.

—

 alpha: Cindy Avitia

**Kelly Kosuga**  
Founding 9th Grade Math Teacher

**Alpha: Cindy Avitia High School**  
[kkosuga@alphapublicschools.org](mailto:kkosuga@alphapublicschools.org)  
(408) 479-2557

To schedule a meeting, see [here](#) (times are PST)

## DEVELOPING RELATIONSHIPS WITH TEAM BUILDERS

Between work sprints, Kelly used team builders to help the students get to know each other, bond as a team, and have fun. One week she gave each team a bag of fruit snacks and asked students to pick one. Then, they had to answer a question that matched their color, such as "What are three facts about your family?" or "If you were part of a hamburger, what would you be?" (One student said

she'd be an onion—you either love her or you hate her.) Kelly found that team builders were helpful at the beginning of the term to help students break the ice. The big breakthrough for Kelly was when she saw that the team building efforts were paying off and that students trusted each other. Kelly did not want a quiet classroom. She wanted her students to be talking to each other and helping each other. The team builders helped establish that culture.

## ALLOWING FOR SPONTANEOUS TEAMING

Partway through the pilot, Kelly read an Amy Edmondson article about teaming<sup>21</sup> and decided to iterate on her teaming structures once again. According to Edmondson, teams are static and predictable, whereas teaming happens as workers collaborate when necessary. This insight caused Kelly to experiment with doing away with team leaders and static teams and replace them with peer coaches. Students wrote their names on the board in a "Need help" column if they needed assistance and wrote their names in the "Give help" column if they were willing to help. Some students liked this peer-coaching approach because they had more freedom to choose anyone in the classroom to approach for help. On the other hand, Kelly found that the shy students sometimes struggled more in this set-up and that students did not build as diverse of relationships. Kelly looked for students who did not seek out help. She taught them to raise their hands when they were stuck, and once they had mastered that, to turn to a peer coach when they were stuck.

## LOOKING AT PEER-BASED TRAINING

One teaming structure that Kelly did not implement during the pilot, but which she and the GO researchers admired, was the Personal Leadership Training (PLT) program that Alpha's middle schools created. The program includes two parts: PLT Lab and PLT Field. The former is a classroom-based course that helps students develop leadership skills and social and emotional competencies through role play, simulations, videos, and reflection. But the latter is what really caught Kelly and the GO researchers' attention. PLT Field takes place outside, using physical training to teach and reinforce the same competencies as in PLT Lab. For example, students learn to do harder and harder push ups using the language of growth mindset to help them develop the grit to do it.

The head PLT coach, Jeff Quinlan, added a fascinating twist to PLT Field. He identified five levels of progress for getting from start to finish in the program. Students complete the levels at their own pace and then request an assessment when they are ready to show they've mastered it. Meanwhile, students can become trainers for each other. They receive leadership training and get certified as a level 1 trainer, level 2 trainer, and so forth. That gives them both the skills and the authority to train and assess their peers and decide if they are ready to advance. Kelly planned to implement a similar structure of peer-based training in her math classroom the following year.

## KELLY'S PROGRESS



Stepping back to look at Kelly's progress after these first few moves, the GO researchers reflected on how much her classroom had changed since the beginning of the pilot. Kelly had released control to students by easing into a Flex model that nurtured agency. She had empowered peers to work together through teaming to support each other during work sprints. The structures had given her a level of comfort about not micro-managing or exerting top-down control. By this point, students knew what they needed to do to be successful and had the power to do it; the classroom was humming.

TO SUM UP	
Lessons learned	Impact
Get the workspace, teams, and team leaders in place.	Students shifted from having social conversations to talking about math. Shy students learned to ask for and give help. Students learned to work outside of their structured teams to get and give help.
Use team builders to build trust and relationships among teammates.	
Spontaneous teaming is more likely to happen if students can work with peers outside of their teams on a need help/give help basis.	
Take teaming a step further through peer-based training.	



## MOVE #4: GIVE FEEDBACK

Create a culture of feedback so that students receive personal, frequent, and actionable feedback in the moment, in small groups, and in one-on-ones.

As Kelly taught mindset behaviors, released control, and encouraged teaming, she gained a windfall of time to do the most important things that good coaches do: give feedback. She began to use work sprints as an occasion to meet with students to give them the personal feedback that they needed and that she had wanted to give before, if only she had had the time.

## IMPORTANCE OF MINDSET FEEDBACK

Typically, Kelly's interactions when she gave feedback took one of three forms:

- 1. Academic feedback** – Technical instruction about math mechanics and deeper concepts
- 2. Project-specific feedback** – Suggestions on how to improve work in progress in terms of content, formatting, and so forth
- 3. Mindset feedback** – Suggestions on mindsets and behaviors that can help overcome obstacles in the way of progress

As a math teacher, Kelly might have been tempted to give academic and project-specific feedback primarily. But she found that mindset feedback was the crucial starting place for many students. Mindset feedback helped develop students' ability to take ownership over their own learning and correct the behaviors and mentalities that were crippling their progress. The Checklist of Habits was a useful feedback tool to remind students of specific behaviors they could try, such as to ask another student for help if they didn't understand something. As students developed agency, Kelly's time was freed up even more to give academic and project-specific feedback.

## DISCOVERING STUDENTS' REAL-TIME NEEDS

Kelly wanted her feedback to be as relevant and tailored to each student's real-time needs as possible. The whiteboard at the front of the room was one of her favorite tools for making sure that was the case.

During class, Kelly used various formative assessments—such as exit tickets, quizzes, and students' IXL scores (see Move #6)—to identify students who needed support and invite them either individually or in small groups to meet with her at the whiteboard, watch how they worked a problem on the board, and correct their errors. If they understood, then she sent them back to their seats to keep working. If they were still confused, then she kept them at the whiteboard to continue to provide remediation. **Figure 3.7** shows Kelly helping a student with a technical skill at the whiteboard.

Sometimes Kelly called students to the whiteboard to work on one set of skills while she met at a table with another set of students to give them different feedback. **Figure 3.8** shows both of these activities happening simultaneously during a work sprint. The whiteboards proved so successful for allowing Kelly to discover students' discrete needs and for students to learn from each other that she ordered enough to fill all of her walls with whiteboards for the following school year. She found them to be a great place to have students show their work in a big way and then provide academic feedback.

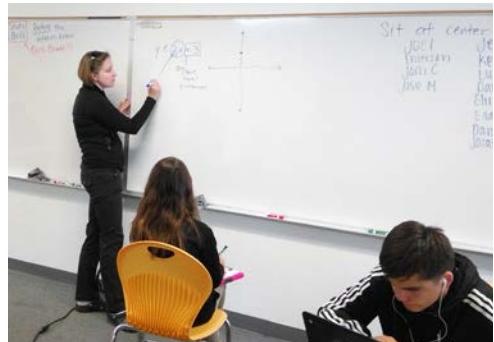


Figure 3.7 Kelly gives academic feedback at the whiteboard

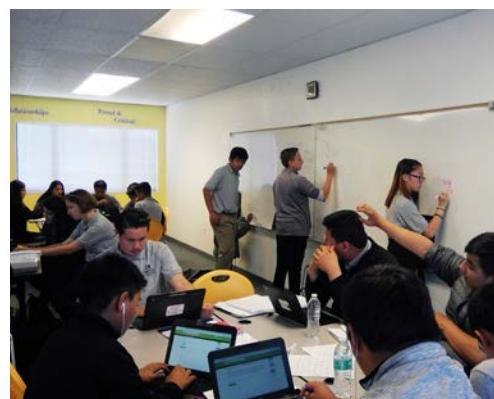


Figure 3.8 Kelly meets with a small group of students while others do whiteboard work

## USING RESPONSIVE FEEDBACK STRUCTURES



Figure 3.9 Kelly speed conferences with all of her students in 30 minutes

her to give personalized feedback on drafts of challenge projects to all 40 of her students, individually, in a single class period.

In that case, Kelly developed a remarkable strategy of speed conferencing. Students created their drafts using Google Docs and shared them in a centrally accessible folder. Kelly called a student to the table in the center, as **Figure 3.9** depicts, looking quickly through the student's draft and offering brief, specific feedback related to such things as formatting, grammar and punctuation, the content itself, or a math skill. After they conferred for a few minutes and the student was clear on next steps, Kelly called up the next student. In that way, she managed to meet with all 40 of her students in a 30-minute span—and some of them more than once.

TO SUM UP	
Lessons learned	Impact
Mindset feedback is critical for developing behaviors and mindsets that enable students to own their own learning and for freeing up teacher time to give academic and project-specific feedback.	By the end of the pilot, Kelly could spend nearly the entire block giving feedback; that became Kelly's primary function during class.
Discover students' real-time needs using formative assessments and showing work on the whiteboard.	
Use responsive feedback structures, such as small-group mini-lessons, one-on-one meetings, and speed conferencing.	



## MOVE #5: BUILD RELATIONSHIPS OF TRUST

Show interest and concern in students as individuals and trust in their ability to drive their own learning, given the right structures are in place.

A significant finding from the research about the best-run organizations in America is that good managers show genuine interest and concern in their people as individuals. This type of communication is different

from giving feedback to improve performance; it's more human and relational. It's also subtler. Kelly never sat down and said "now we're going to build our relationship" or "let's look at this rubric about our levels of mutual trust." Instead, she improved her relationships with her students by empowering them to take control of their own learning and by supporting them in building habits that led to success. She didn't talk about trust and concern, she showed it to them.

Partway through the pilot, Kelly's students completed a Google Oxygen Survey to provide feedback about their teacher. Kelly received dozens of comments that evidenced the strong relationships she'd built:

"She motivates with extreme happiness."

"She always makes me feel like I can do anything."

"She tells me not to give up."

"She is very supportive."

"She is very caring."

"She is always saying we can do things. There is never a time she said anything along the lines of, 'You cannot do this.'"

"Me da poder."

"She celebrates with me when I tell her something good has happened and I feel like I can tell her anything if something is wrong."

"She asks me if I am okay all the time."

"She's positive about every good thing we do."

"She is nice and she always has a smile every day even when she gets a little sick."

"She shows success to us by being proud and bragging with kindness."

In truth, the students had very few suggestions for ways that Kelly could improve. The comments included:

"I don't have anything [to suggest]. She helps me whenever she can."

"Push me to work more."

"The best is already done."

"Check in with me during flex time and school."

"I wish she could give me better advice."

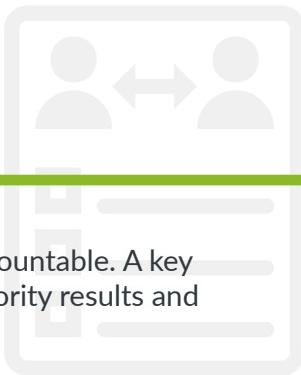
Only four out of 100 student respondents answered "no" to the question of whether they felt that Kelly cared about them as a person. Despite that significantly positive result, the four students who somehow slipped through the cracks caused Kelly to reflect on how to ensure that, in the future, not one student felt overlooked. She planned to continue to use the Google Oxygen Survey after the pilot to keep her eye on students' feelings about her relationship with them and get their ongoing input.

TO SUM UP	
Lessons learned	Impact
Empowering students to take control over their own learning and supporting them in building habits that lead to success also builds trust between the coach and students.	Kelly's relationships with and connection to students became stronger even as she spent less time delivering instruction and more time providing feedback.
Students respond favorably to coaches who are encouraging, positive, and caring.	



## MOVE #6: HELP STUDENTS HOLD THEMSELVES ACCOUNTABLE

Give them tools to set goals, track their progress, and follow through.



Kelly knew that her students would make better choices if they felt informed and accountable. A key attribute of good managers at Google is that they keep the team focused on their priority results and deliverables. Kelly decided to make this move in two ways.

## MAKING THE GRADING SYSTEM AND STUDENT PROGRESS TRANSPARENT

First, Kelly needed to make students perfectly aware of what they needed to do to succeed in her class, where they currently stood, and that they had a viable path to succeed. She didn't have a tool that allowed her to do this easily, so she created one.

Kelly built a spreadsheet that listed all of her students' names in the far-left column. Next to each name, she

entered the student's grade as a percentage, and then all of the items that contributed to that grade—from quizzes and interim assessments, to challenge projects and class participation. The spreadsheet allowed students to see how their day-to-day progress (or lack thereof) impacted their final grade for the year. Kelly projected this spreadsheet onto a wall in the classroom, as **Figure 3.10** shows.

Grade Average (Algebra 1)											
Student Name	Avg	Q1	Q2	Q3	Q4	CW	Interim	Challenge Project	IXL	Attendance	Homework
2A 84%	88%	88%	88%	90%	63%	88%	50%	50%	50%	50%	50%
2A 91%	96%	100%	82%	84%	99%	99%	50%	50%	50%	50%	50%
2A 74%	75%	78%	82%	81%	83%	83%	50%	50%	50%	50%	50%
1B 69%	76%	70%	70%	56%	81%	81%	50%	50%	50%	50%	50%
3A 89%	96%	99%	96%	65%	71%	71%	50%	50%	50%	50%	50%
2A 64%	70%	70%	70%	48%	47%	47%	50%	50%	50%	50%	50%
2A 87%	78%	70%	70%	51%	52%	62%	50%	50%	50%	50%	50%
3A 87%	70%	70%	70%	50%	53%	53%	50%	50%	50%	50%	50%
3A 87%	82%	70%	70%	48%	47%	50%	50%	50%	50%	50%	50%
2A 66%	75%	78%	70%	41%	37%	50%	50%	50%	50%	50%	50%
2A 93%	93%	100%	96%	84%	99%	99%	50%	50%	50%	50%	50%
2B 73%	82%	78%	70%	81%	66%	50%	50%	50%	50%	50%	50%
1B 69%	78%	70%	70%	60%	64%	64%	50%	50%	50%	50%	50%
3A 89%	93%	96%	93%	78%	86%	86%	50%	50%	50%	50%	50%
2B 82%	88%	93%	78%	68%	73%	73%	50%	50%	50%	50%	50%
2B 60%	70%	70%	70%	28%	18%	18%	50%	50%	50%	50%	50%
1B 72%	88%	70%	70%	58%	52%	52%	50%	50%	50%	50%	50%
2B 40%	88%	99%	96%	78%	87%	87%	50%	50%	50%	50%	50%
2A 91%	88%	99%	96%	94%	84%	84%	50%	50%	50%	50%	50%
1B 88%	78%	70%	70%	54%	87%	87%	50%	50%	50%	50%	50%
2A 96%	96%	99%	98%	97%	99%	99%	50%	50%	50%	50%	50%

Figure 3.10 Projection of cumulative grades

Updating this table each day was labor intensive. Kelly had to export each student's IXL scores, combine them with data from the Illuminate platform, and enter it all in a Google Sheet. Despite the burden, Kelly was convinced that increase in transparency made a huge difference in students feeling accountable.

## USING TOOLS TO HELP STUDENTS STAY ORGANIZED

Kelly's second method for playing up student accountability was with scaffolds to help students stay organized. Her primary innovation was an **IXL Tracker**, which is included as **Appendix 3.2** at the end of this chapter. This is a paper-based document that students kept in their binders and referred to during work sprints. It lists all of the IXL lessons that cover skills required to pass Algebra on a grid. When students completed a lesson, Kelly or a peer marked it off using a rubber stamp. That simple action felt satisfying; it helped students experience their incremental progress and it was concrete. The IXL Tracker gave students a way to make sure they were keeping up with the assignments they needed to finish to prepare for the quizzes. **Figure 3.11** shows a student using the IXL Tracker as he works through math problems on IXL.



Figure 3.11 Student uses the IXL Tracker to guide his individual IXL work

Other scaffolds included student binders, which Alpha distributed to all its students along with instructions for how to use them. Kelly did binder checks to make sure students had their IXL Trackers in their Algebra tab. Without these supports, students did not consistently keep and use their trackers.

TO SUM UP	
Lessons learned	Impact
Make the grading system and student progress transparent, such as by giving students access to cumulative grades.	Many students showed improvements in their mindset behaviors after they saw how their cumulative grades stacked up. All students learned to use the IXL Tracker.
Provide tools to help students stay organized, such as the IXL Tracker and help with binders.	



## MOVE #7: HOLD YOURSELF ACCOUNTABLE

Use reflection time, peers, student surveys, and self-assessments to make sure that you are on track personally.

At the start of the pilot, the GO researchers developed several tools to help teachers take the temperature of the classroom climate. The goal was to measure if the moves were leading to positive outcomes for students, as well as to help the teachers hold themselves accountable for their own growth and development. The reflection tools included a teacher self-assessment survey, a modified Google Oxygen Survey for students to give feedback to their teachers, and a Google Form that asked students to give Kelly feedback on the classroom structures, such as work sprints, whiteboard practice, IXL Trackers, and so forth.

The most helpful of these three tools was the Google Form with questions about Kelly's structures. Students rated each structure on a three-point scale: 1 for "please change," 2 for "no opinion," and 3 for "please keep."

The data from that form helped Kelly make decisions, such as to drop the way she was teaching mindsets and replace it with the Checklist of Habits, as well as to double down on the investment in whiteboards.

The unexpected finding for the GO researchers, however, was that none of these assessment tools had nearly as much impact on teacher accountability as did the presence of the three GO researchers themselves in the teachers' classrooms. Jennifer Wu visited Kelly's classroom at least once per week. She observed what Kelly was doing, took notes, and then met with Kelly to reflect. Together they brainstormed solutions for problems that arose and planned how to implement them.

In the end, it was clear that one of the best ways for teachers to make Move #7 is by making explicit time to reflect and having a partner hold you accountable. During the pilot, Jennifer played the role of running partner to Kelly. In practice, teachers could rely on a coach, colleague, or formal professional learning community (PLC) to help them reflect and hold themselves accountable.

TO SUM UP	
Lessons learned	Impact
Take ample time, ideally with a peer, to reflect and make improvements each week.	Kelly invented several structures to improve her classroom and school.
Ask your students for feedback and listen to it.	

## CONCLUDING THE PILOT

By the end of the semester, Kelly's classroom had an entirely different culture from at the start. Her students had transitioned to a much more flexible, student-driven learning environment. Rather than spending her time in Guided Group, Kelly used each Algebra I class period to meet individually or in small groups with specific students using responsive feedback structures. She had shifted from being an instructor who imparted lessons to a coach who gave feedback and developed relationships of trust.

Student behavior and performance changed markedly during the pilot. At the beginning, Kelly needed to intervene constantly to keep students focused, and there were frequent nonacademic conversations and Chromebook activities. Students often yelled out, "Ms. Kosuga," or raised their hands as their first line of defense when they needed help. By the end of the pilot, though, students were productive for long stretches of time. The GO researchers heard mostly math speak in the conversations and they saw students helping each other out and doing problems on the whiteboard together. Kelly no longer had to run around attending to student needs and could be proactive about giving feedback to the right student in the right way.

Kelly was eager to make more changes in the next school year. She thought she could do a better job using IXL and quiz data to provide feedback that was even more responsive to students' real-time needs. She wanted to borrow the concept of peer-based training from the middle schools' PLT Field program and make something similar work for her math classroom. She kept thinking about how to ensure that, through teaming and her own one-on-one conferencing, not one student would feel lost or overlooked. Overall, though, Kelly felt she had made critical moves to establish a classroom environment that brought out the best in herself and her students.



## CHAPTER 3 APPENDIX

1. Checklist of Habits

2. IXL Tracker

# CHECKLIST OF HABITS

## AGENCY

ownership, empowerment

- I know what I need to do to achieve my goals.
- I use strategies (e.g., IXL stamp sheet) to keep myself on track.
- If I'm not on track, I figure out how to get back on track.
- When I'm stuck, I find ways to get unstuck (e.g., ask for help or find information online).
- When I face an obstacle, I find a way to overcome or get around it.

## TEAMING

valuing and supporting others, leadership

- If I need help, I ask my teammates for help.
- If my teammates ask for help, I try to help them.
- I check in with my teammates to see how they're doing.
- I notice if a teammate needs help and offer my support, even if they don't ask for it.
- I make decisions that are in the best interest of the team.

## GROWTH MINDSET

belief that abilities can be developed through effort and

- If I don't understand something at first, I try different strategies to learn it (e.g., write problem on paper, use the whiteboard, ask several different people for help).
- If I get a question wrong on a quiz, I'll try to understand why.
- I will practice before I retake quizzes to improve my scores.
- I will keep working on IXL to improve my score.
- I'm not afraid to try something challenging; if I fail, I try to learn from it.

## CREATIVITY

defining problems, arriving at solutions

- I brainstorm multiple ways to solve problems.
- I try different ways to solve problems.
- I keep trying to improve solutions to challenges (e.g., how I prepare for a quiz, how I stay organized, how I keep on track, how I show up to class on time).

**Leadership****The Relentless Pursuit of Excellence****Relationships****Proud & Critical**

IXL Username: \_\_\_\_\_ Password: \_\_\_\_\_

**For each assignment, please document your mathematical thinking on a sheet of notebook paper.** You should aim to complete two IXL assignments each class. The quizzes will have five questions and cover the topics that are listed in the same row.

**Para cada tarea, por favor escribe su proceso de lógica matemática en una hoja de papel de cuaderno.** Usted debe tratar de completar dos tareas IXL cada clase. Las pruebas tendrán cinco preguntas y cubrir los temas que se enumeran en la misma fila.

A.1 Classify numbers	J.3 Solve one-step linear equations	J.4 Solve two-step linear equations	J.5 Solve advanced linear equations	J.6 Solve equations with variables on both sides	Quiz 1 4/19 or 4/20
K.7 Graph solutions to one-step linear inequalities	K.9 Graph solutions to two-step linear inequalities	K.11 Graph solutions to advanced linear inequalities	K.15 Graph solutions to compound inequalities	L.1 Solve absolute value equations	Quiz 2 4/26 or 4/27
Q.10 Write a function rule: word problems	Q.11 Find points on a function graph	Q.13 Find values using function graphs	T.3 Graph a linear inequality in the coordinate plane	T.6 Solve systems of linear inequalities by graphing	Quiz 3 5/3 or 5/4
U.8 Solve a system of equations using substitution	U.9 Solve a system of equations using substitution: word problems	V.9 Identify equivalent expressions involving exponents	V.10 Evaluate integers raised to rational exponents	X.3 Exponential growth and decay: word problems	Quiz 4 5/10 or 5/11
Z.6 Multiply a polynomial by a monomial	Z.8 Multiply two binomials	Z.10 Multiply polynomials	AA.2 Factor out a monomial	AA.3 Factor quadratics with leading coefficient 1	Quiz 5 5/17 or 5/18
AA.4 Factor quadratics with other leading coefficients	BB.1 Characteristics of quadratic functions	BB.3 Transformations of quadratic functions	BB.5 Solve an equation using the zero product property	BB.6 Solve a quadratic equation by factoring	Quiz 6 5/24 or 5/25
BB.8 Solve a quadratic equation by completing the square	BB.9 Solve a quadratic equation using the quadratic formula	EE.1 Simplify radical expressions	EE.3 Multiply radical expressions	EE.4 Add and subtract radical expressions	Quiz 7 5/31 or 6/1

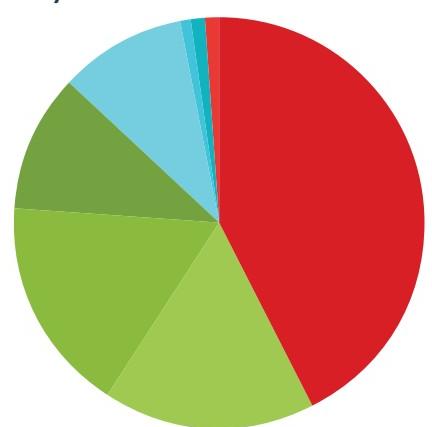
# 4

## REBECCA AND LINDA AT REDWOOD

The GO researchers wanted to test their ideas in a public school run by a traditional school district, and Redwood Heights Elementary School (Redwood), nestled in a mixed-economic section of the Oakland Unified School District in California, provided that opportunity.

Redwood is regarded for its appetite for innovation. It received Next Generation Learning Challenge grants in 2015 and 2016 to accelerate personalized learning in its classrooms. Two teachers involved in that effort, Rebecca Weissman and Linda Rogers, later signed on to participate in the GO Pilot as well. Rebecca joined first, and then two months into the pilot, impressed by Rebecca's successes, Linda asked to participate.

**Snapshot of Redwood Heights Elementary School: All data is for the 2015–16 school year**

<b>Year opened</b>	1950	<b>Location</b>	Oakland, Calif.								
<b>Grades served</b>	K–5	<b>Type of school</b>	Public district								
<b>Total students</b>	364										
<b>Free and reduced-price lunch</b>	24%	<b>Student-to-teacher ratio</b>	24-to-1 (grades K–3) 30-to-1 (grades 4–5)								
	<b>Student ethnicity</b>  <table><tbody><tr><td>17% African American</td><td>10% Asian (including Indian subcontinent)</td></tr><tr><td>11% Two or More Races</td><td>17% Hispanic</td></tr><tr><td>43% White</td><td>1% Filipino</td></tr><tr><td>&lt;1% Pacific Islander</td><td>1% American Indian/Alaska Native</td></tr></tbody></table>			17% African American	10% Asian (including Indian subcontinent)	11% Two or More Races	17% Hispanic	43% White	1% Filipino	<1% Pacific Islander	1% American Indian/Alaska Native
17% African American	10% Asian (including Indian subcontinent)										
11% Two or More Races	17% Hispanic										
43% White	1% Filipino										
<1% Pacific Islander	1% American Indian/Alaska Native										

17% African American, 10% Asian (including Indian subcontinent),  
11% Two or More Races, 17% Hispanic, 43% White, 1% Filipino, 1%  
American Indian/Alaska Native, <1% Pacific Islander

Source: GreatSchools

## MEET REBECCA WEISSMAN AND LINDA ROGERS

Rebecca Weissman earned a bachelor's degree in Psychology from NYU and a master's in education from UCLA, where she worked as a research assistant to a professor who was studying growth mindset and social and emotional learning. From then on, Rebecca aspired to make those concepts part of the DNA of her future classrooms. In 2008, Rebecca accepted a teaching job at Redwood—the elementary school she attended as a child—as a way to give back to her community. At the time of the pilot, she taught a 1st/2nd-grade combination class. **Figure 4.1** shows Rebecca in her classroom.

Linda Rogers moved to California from Chicago in 1968. She attended what is now California State University, East Bay for college and earned a master's degree in education, literacy, language, and culture from the University of California, Berkeley. The 2015–16 school year was her last year as a teacher before retiring, after having taught in the Oakland Unified School District for 31 years. **Figure 4.2** shows Linda with her 1st-grade students.



Figure 4.1 Rebecca celebrates her students' completion of a writing project

## LIFE IN THE CLASSROOMS BEFORE THE PILOT

At the start of the pilots, Rebecca and Linda had traditional elementary school classrooms in many respects, with reading, math, science, social studies, specials/enrichment, and P.E. They were ahead of other schools, however, in their efforts to personalize learning using blended models. For math, both had a Station Rotation model in which students rotated between the online program ST Math, a teacher-led station, and

other activities. For reading, Linda had a Station Rotation that included the literacy-focused software program Lexia Reading Core5 as the online station and then various other centers. Rebecca's model started in the same place but had evolved into an Individual Rotation, in which she provided a customized list of reading tasks to each student.



Figure 4.2 Linda introduces the mindset of agency using the book *My Name Is Not Isabella: Just How Big Can a Little Girl Dream?*

The teachers looked at the GO Pilot as an opportunity to be deliberate about helping students develop the mindsets they needed to be successful and to shifting from being traditional teachers to being great coaches. Rebecca viewed the pilot as an invitation to apply the concepts of student-centered learning that she had studied at UCLA years ago. She started making her first moves in January, focusing first on Move #1, and then Linda joined in two months later.



## MOVE #1: TEACH MINDSETS

Develop the mindsets of agency, creativity, growth mindset, and passion for learning.

If Kelly in Chapter 3 struggled to teach her teenagers to make the connection between mindsets, behaviors, and performance, then how can teachers who are working with young children hope to pull this off? As she kicked off her pilot, Rebecca knew that she would need to do a lot of up front work to frame the mindsets in a way that her 1st- and 2nd-grade students could understand and apply. Linda implemented Rebecca's same practices when she joined the pilot in mid-March. They began by introducing and explaining the mindsets and then set about to nurture and reinforce them.

### INTRODUCING AND FRAMING THE MINDSETS

To begin, Rebecca decided to spend a couple of weeks introducing the mindsets in rapid succession and then slow down and explore them deeply one at a time. The first week she introduced passion and growth mindset and then went on from there to teach creativity, teaming, and agency. Because of her compressed time frame, Linda introduced a new mindset every day—a strategy that she said was not ideal because the students did not have enough time to let the concepts sink in.

Rebecca and Linda used children's literature in **Table 4.1** as a starting point for introducing each mindset and then followed this up by developing a mantra—a simple statement or slogan—to serve as a reminder. For example, to introduce passion for learning, the teachers read aloud *Rosie Revere, Engineer* and then discussed the protagonist's passion for inventing gizmos and gadgets and her dream of becoming a great engineer. They asked their students how Rosie's passion for engineering helped her keep going, even after her flying contraption didn't work. After serious discussion, they decided that Rosie's passion helped her not to quit. Rebecca borrowed from the book to develop a class mantra for passion: "The only true failure can come if you quit." She and Linda posted the mantra on wall boards (**Figure 4.3** shows Linda's) to remind the class that passion was their focus for the week. Usually, the class noted that characters in the books showed more than one mindset; this observation helped them understand that mindsets are interrelated.

Table 4.1 Children's literature to introduce each mindset

Focus	Children's literature (title, author)
PASSION	<i>Rosie Revere, Engineer</i> , by Andrea Beaty
CREATIVITY	1. <i>The Mangrove Tree: Planting Trees to Feed Families</i> , by Susan L. Roth 2. <i>Iggy Peck, Architect</i> , by Andrea Beaty and David Roberts
GROWTH MINDSET	<i>Your Fantastic Elastic Brain</i> , by JoAnn Deak and Sarah Ackerley
TEAMING	1. <i>Thanks for the Feedback, I Think</i> , by Julia Cook 2. <i>Teamwork Isn't My Thing, and I Don't Like to Share!</i> , by Julia Cook
AGENCY	1. <i>My Name is Not Isabella: Just How Big Can a Little Girl Dream?</i> , by Jennifer Fosberry and Mike Litwin 2. <i>Wangari's Trees of Peace: A True Story from Africa</i> , by Jeanette Winter



Figure 4.3 Linda posts the passion mindset and mantra on her wall board

developed the mantra "intelligence can be grown through hard work, effort, persistence, and resilience." Like Rebecca, Linda also posted various mantras around her classroom to establish them as the culture, as Figures 4.4, 4.5, and 4.6 depict.



Figure 4.4 Class mantra about how to look at failure



Figure 4.5 Class mantra about how to look at mistakes

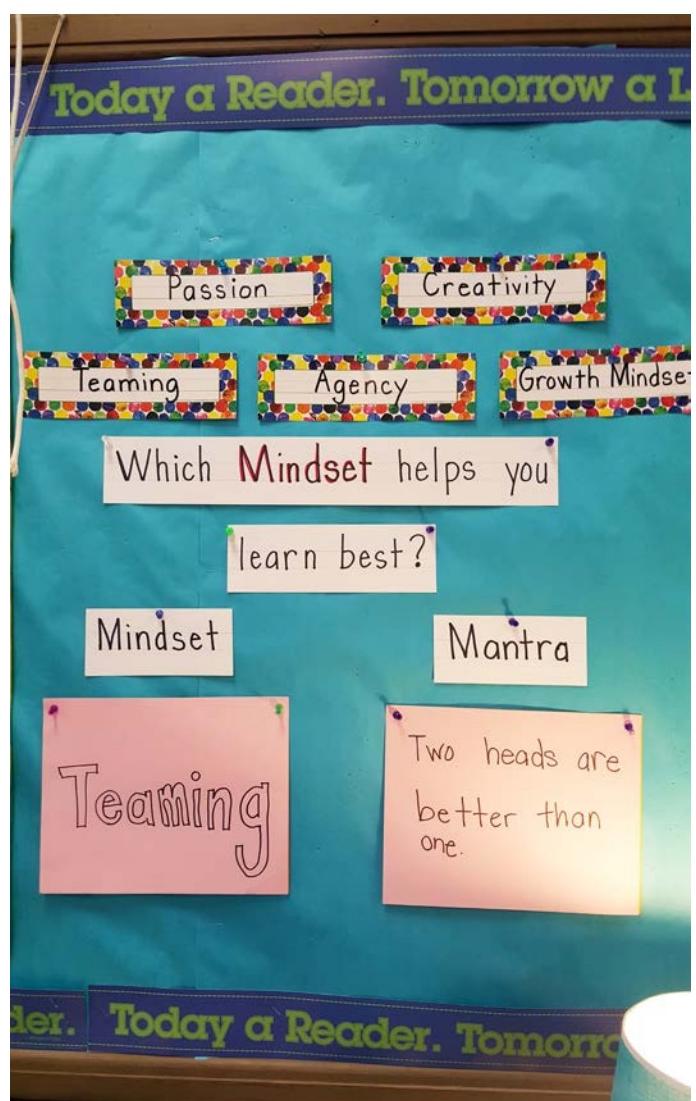


Figure 4.6 Class mantra about teaming

Rebecca and Linda kept their ears out for good mantras. For example, one day Rebecca asked her students to explain what a goal is. A girl raised her hand and said that her rock-climbing teacher told her that "a goal is something you want to do but can't do yet." Rebecca thought that definition was amazing, so she wrote it on a big banner and talked about it every morning with her students. For growth mindset, her class

## REINFORCING MINDSETS WITH SHOUT-OUTS

After introducing each mindset, Rebecca and Linda wanted to reinforce them through celebration. Rebecca created the Mindset Box and invited students to write down a classmate's name who was showing one of the mindsets and slip the paper in the box. Each day she'd read out at least one name from the box, call the student to the front of the class, give one large clap as a class, and then send the slip home for the student to share with his parents. Sometimes students also wrote down the mindset and the behavior that evidenced it, but for the less fluent writers, a simple name of the exemplary student sufficed.

Linda said that she needed more time to teach the students about the Mindset Box so that they understood its use. On occasion it devolved into a popularity contest—a problem she knew she could fix with more time to establish properly the structure.

## REINFORCING MINDSETS WITH CO-ASSESSMENTS

Rebecca sat down with her students in January, March, and May to co-assess their mindsets. Working with Jennifer Wu on the GO researchers, she developed the Mindset rubric, which is included as **Appendix 4.1** at the end of this chapter. She told the students about each box on the rubric and then asked them to determine which box they thought reflected their status. Rebecca was able to complete a full round of co-assessments in one week; she met with seven students per day for seven minutes each. Linda also did one round of co-assessments with her students.

Rebecca said that the co-assessment rubrics needed additional refining. If she were to do them again, then she would reword them to make the language more similar to how her students came to understand and define the mindsets. But the routine still had value, as it provided a dependable structure for her to sit with each of their students one-on-one, discuss their mindset development, and help them choose a mindset that they wanted to focus on. **Figure 4.7** shows the mindset focus areas that Rebecca's students chose for the month of March.



Figure 4.7 Rebecca posts her student's mindset goals

## REINFORCING MINDSETS BY DEVELOPING A COMMON LANGUAGE

Rebecca and Linda made a continual effort to reinforce the mindsets through the way they talked to their students. It was the little things that kept the mindsets front and center. When Rebecca read her class books or discussed history, she looked for opportunities to say something like, "Oh wow, this character showed growth mindset just then. Can you spot another time when he showed the same mindset?" Her students got better at noticing mindsets themselves. One student pointed out that she had to use agency to manage her time better during reading rotation. A mother told Linda that her child complimented her for her growth

mindset after the mom apologized for yelling at the child and told him she was working to overcome that bad habit.

Rebecca said that the children's literature was particularly effective for establishing the common language. While discussing agency in the book *Wangari's Trees of Peace: A True Story from Africa*, one student said, "Wangari also showed teaming because she worked together with the other women to solve the problem." The students then talked about how most characters showed three or more mindsets, not only one. The discussions led to significant insights. During a discussion about growth mindset and all of the ways to "get smarter" in school, one student proclaimed, "So, all the things that help you get smarter actually have nothing to do with being smart."

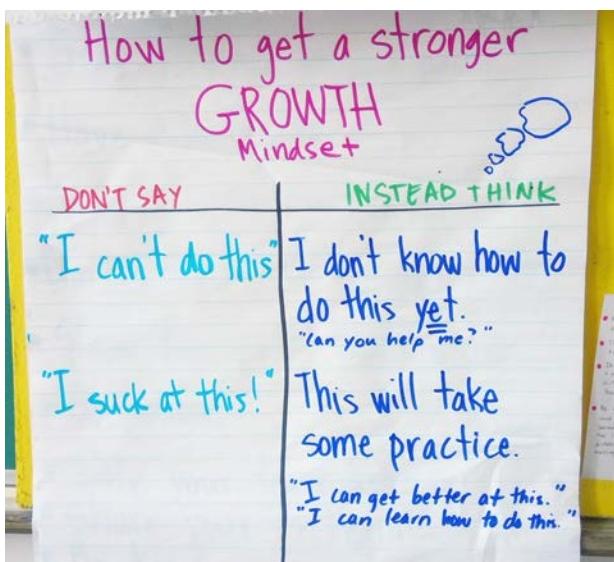


Figure 4.8 Rebecca's poster to guide a class discussion about growth mindset

Celebrations also helped reinforce the language. Rebecca frequently called students to the front of the class and asked them to stand on a makeshift platform that she called her stage. Using a marker as a pretend microphone, she'd announce, "Ladies and gentlemen, this student just completed his goals on ST Math. Tell us how you did it, Jake. What mindsets helped you?" This ended with a round of applause.

Rebecca began each morning with a reflection moment for her students to sit silently and think about how they were doing on their mindset goal. During the afternoon check-in, she asked if anyone had a specific example of how either that student or a peer had evidenced the mindset that they were studying. **Figure 4.8** shows a poster Rebecca used to guide a class discussion about how to improve growth mindset.

TO SUM UP	
Lessons learned	Impact
Introduce and frame the mindsets up front so that students understand them, such as through children's literature and mantras.	Students understood and were able to use mindset language around the classroom and at home.
Reinforce the mindsets, such as with posters, shout-outs, co-assessments, and developing a common language.	

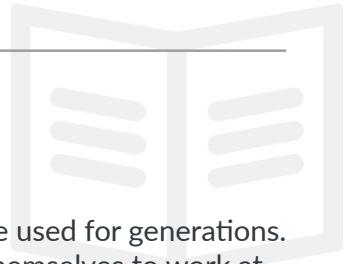


## MOVE #2: RELEASE CONTROL

Provide content and resources that students are free to access without your direct instruction. This control gives them ownership, develops their agency, and frees up your time.

Before the pilot, Redwood was already thinking about student-centered learning and the shift for teachers from a traditional to a facilitator role. Rebecca and Linda were ahead of the curve, having worked on personalization and blended learning in their classrooms for more than a year. As a result, when the GO

researchers arrived, they observed that these teachers had already started to make Move #2 of releasing control by providing tools to enable independent learning. The pilot helped them go further with Move #2 by beginning to transfer decision-making and choice from themselves to their students.



## PROVIDING TOOLS THAT ENABLE INDEPENDENT LEARNING

At the elementary level, centers and stations are a common practice that teachers have used for generations. By assigning students discrete activities that they can do on their own, teachers free themselves to work at a single station or to give individual attention. Recently, many teachers have added an online station to the mix, which gives more control to students because it allows them to set their own pace and work through online lessons according to their own method and goals, rather than based on a teacher's plan.

Rebecca and Linda already had a Station Rotation in place for math before the pilot began. Students rotated through two to four centers, which usually included ST Math—an online math program developed by Mind Research Institute; hands-on work, such as manipulatives, worksheets, or collaborative work with a partner; and small-group instruction with a teacher or volunteer. For math, students almost always worked on the same standards on the same day, except at the ST Math station, where they could move at their own pace.

Linda had a similar Station Rotation in place for reading. But Rebecca had evolved from that model to an Individual Rotation, in which she gave her students a daily list of learning tasks personalized to their needs for the 70-minute reading block. Creating these lists each night was a lot of work, but Rebecca did it because they let her tailor the tasks to students' individual needs and because it gave her students more control. She allowed them to complete the tasks in the order they chose and to allocate their own time, within bounds. Although this model was already in place before the pilot, the pilot helped Rebecca deepen her commitment to it because she saw how superior it was to a Station Rotation for nurturing the mindset of agency.

Rebecca selected tasks for the individual schedules from the following set of options:

Good Morning Erika! Today is 5/20. Here is your work for Reading Rotation.		
<input type="checkbox"/>		Independent Reading
Minimum: 20 minutes. Today I read for: _____ minutes		
<input type="checkbox"/>		School Reading Project
Dessert:		
<input type="checkbox"/>		Choice
<input type="checkbox"/>		CORE5
<input type="checkbox"/>		N
<input type="checkbox"/>		Put books away!

Figure 4.9 Erika's individual reading rotation schedule in Rebecca's classroom

- Lexia Reading Core5, a word-study and phonics software program (required for all until they reached a benchmark level)
- An independent reading station using self-selected books from their book boxes (required for all)
- Worksheets to practice a specific skill, such as phonics
- A reading project on the online myON program
- Partner reading
- Book shopping to add books to their book boxes
- Book clubs
- Assessment to move up to the next reading level
- Preparation to read a book aloud to the class
- A teacher station with Rebecca for a small-group lesson or individual conference or assessment

Sometimes she designated a few of these tasks as “dessert” to enjoy only after completing the others. **Figure 4.9** shows a sample daily reading rotation schedule that Rebecca prepared for her student Erika to set the agenda for her reading time.

## GIVING STUDENTS DECISION-MAKING POWER

In response to the pilot, Rebecca looked for ways to give her students more choice. She wanted to encourage their agency by transferring decision-making power from her to them. She did this in a number of ways during her reading rotation, during which she let them choose where to sit and what order to do their customized list of assignments. They chose which book to read during the independent reading station. (Rebecca encouraged them to be aware of their own level; even if they were testing lower or higher, they should choose a book at that felt “just right” to them and not wait for an adult to give them permission.) They chose when to sign up for an assessment to move up formally to the next reading level.

Furthermore, she gave students substantial ownership over their time. She put a timer app on their iPads and made them responsible for tracking when they had fulfilled the number of minutes they had planned for each task. (She reviewed their plans for how long to spend on each task and imposed a minimum if she found them too low.) Every week the students reflected on their progress and bumped up their minutes, to a maximum of 40 minutes per reading block. Setting goals for their independent reading time allowed them to see their stamina increase over time.

Going forward, Rebecca wanted to convert her math block to an Individual Rotation and load it with student choice. She was still thinking about how to do this in a subject that is highly sequential.

## PROVIDING CLEAR, WRITTEN INSTRUCTIONS UP FRONT

Rebecca wanted to give students even more choice than she felt she could give them during math and reading, given the district’s tight scope and sequence guidelines, and so she decided to create a project-based learning activity, the animal project, inspired by a writing project that Linda’s class had done. She assigned each student to a four-person group and invited them to choose an animal to study. Their task was for each person to write a book about the group’s animal. Rebecca’s personal goal was to see if she could release control to her students and refrain from micromanaging them through their projects.

To get there, Rebecca figured out that she needed to give students clear, written information up front so that teams were empowered to work on their own. She wanted to be able to step back and let them run with their projects without her interference—no small ambition for a classroom of six and seven year olds. Rebecca felt nervous but was eager to try it.

The first written information Rebecca created was a checklist for students to mark as they completed each chapter for their book. **Figure 4.10** shows this checklist, which proved helpful in allowing students to self-manage their time.



Figure 4.10 Checklist of required chapters for the animal project books

Next, Rebecca created a reflection sheet, **Figure 4.11**, for students to do at the end to ensure that their project was ready for submission. She gave them this sheet up front so that the requirements for success in the project were fully transparent.

	Yes	Not done yet	I need help
I have a cover and back cover			
I have a title page			
I dedicated my book to someone			
I introduced my topic			
I wrote more than one fact in each chapter			
I made a diagram and labeled it			
I told the reader about myself			
I used finger spaces			
I used punctuation ( . , ! ? )			
I capitalized the first letter of each sentence			

Figure 4.11 Reflection sheet for the animal project

With these written instructions in place, Rebecca stepped back and let the students drive their learning. If they had questions, then they could find most of the answers from these documents without relying on her. Rebecca gave the teams a final deadline, but did not impose daily deadlines. That release of control felt strange. At one point, Rebecca noticed that a few of her students were working for hours on their cover pages. Rebecca was tempted to intervene, but she decided not to micromanage. Some of the students who needed more time worked on their projects from home. All of the students ended up completing their projects on time—with beautiful cover pages to boot.

Rebecca noticed that student engagement skyrocketed with the animal projects. She also noticed that she felt less tired and that animal project time was one of her favorite parts of the week because of the atmosphere in the room.

TO SUM UP	
Lessons learned	Impact
Provide tools that enable independent learning, such as online-learning software. An Individual Rotation gives more flexibility to nurture agency than a Station Rotation does.	Rebecca deepened her commitment to converting to an Individual Rotations instead of a Station Rotation. Her students had more opportunities to make choices and learn agency. They saw their stamina increase at the independent reading station. Students completed projects without Rebecca micromanaging them. Student engagement improved and Rebecca felt less tired.
Give students decision-making power to drive their own learning and apply mindset skills.	
Provide clear, written instructions up front.	



## MOVE #3: ENCOURAGE TEAMING

Foster peer-to-peer learning and dynamic, team-based collaboration.

While earning her master's degree at UCLA, Rebecca became familiar with student-centered learning. She felt that her nine years in the system, however, had chased away most of that vision and that her classroom was mainly teacher led. The pilot helped her return to her original instincts, and this was particularly manifested as she made Move #3.

Although happy with the students' self-reliance during the animal project, Rebecca did not like that the design of the project did not engender teamwork. She wanted the students to develop a teaming mindset, but they mostly produced their animal books on their own, albeit in table groups arranged by the same animal.

It occurred to her that in teams in a workplace and in sports, different people play different roles and collectively contribute to creating a final product or winning the game. The combination of expertise is what makes the sum greater than the parts. She reflected about how schools are good at putting students into *groups*, not *teams*. For her class's next project, Rebecca wanted it to necessitate that her students move beyond parallel work to collaborative work.

To implement this, she developed an interdisciplinary science, art, and makers project about insect life cycles in which teams were to create a poster that depicted each stage in the insect's life—in the case of a butterfly, from egg to caterpillar to chrysalis to butterfly. Rebecca grouped her students into teams, but this time required that each student choose a stage of the life cycle to model. One student might decide to research the egg stage and then ball up tissue paper and other materials to make life-size eggs; another could create butterfly wings out of cellophane. When they finished, they came together as a team to hot glue all of the stages on a poster paper. The point was that they had to work together.

Rebecca felt the insect life-cycle project was an improvement over the animal project because students had to collaborate to construct the complete insect. "Students really came together during the last part, which also happens in real life when team members come together to produce their final project or play a winning game," Rebecca said. "I felt so proud of them, as well as of myself. My revelation about groups versus teams had worked." **Figure 4.12** shows the teaming behaviors that Rebecca's class identified and committed to for working together and **Figure 4.13** shows one of the final products.

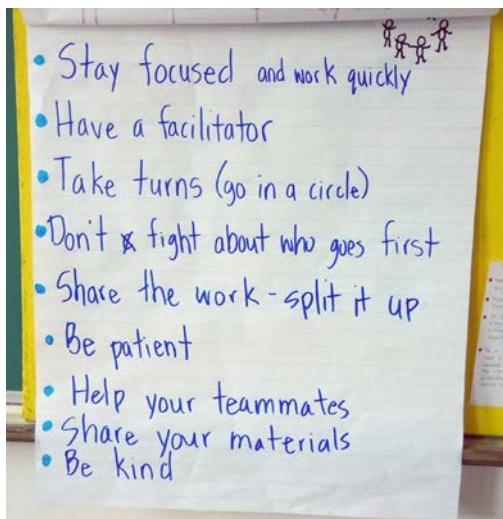


Figure 4.12 Rebecca's class identified how to work together as teams

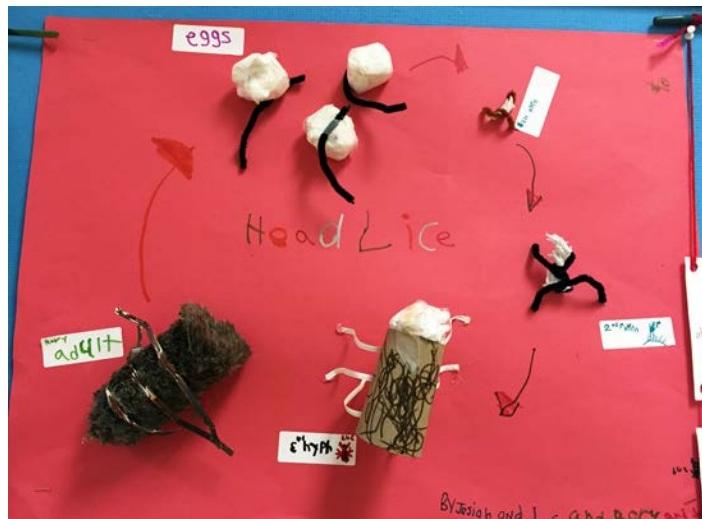


Figure 4.13 Final product for the self-appointed head lice team



Figure 4.14 Final product for a block team

Linda also was imaginative about how to improve teaming in her classroom during the pilot. She set up a block project station as part of her existing STEAM workshop. Students teamed up to decide what they should build, sketch out the design, and then work together to create it. Linda required that they work together—meaning not fight and each pitch in—or else they had to move to a different station, and, over time, Linda saw that their abilities to meet these requirements greatly improved. **Figure 4.14** shows one team’s final product.

TO SUM UP	
Lessons learned	Impact
Replace groups with teams by developing projects that require the collective effort of a team to be successful.	Students learned to work collaboratively in teams.
Explicitly teach students how to work on a team and how to be a good teammate.	



## MOVE #4: GIVE FEEDBACK

Create a culture of feedback so that students receive personal, frequent, and actionable feedback in the moment, in small groups, and in one-on-ones.

Before the pilot, Redwood had been emphasizing small-group instruction across the school. With the kickoff of the pilot, Rebecca wanted to spend more time giving students individual feedback. Her goal was to spend more time one-on-one with students and be a good coach to each one. Rebecca already had several structures playing to her advantage to accomplish this feat.

## FLEXIBILITY OF THE INDIVIDUAL ROTATION

First, her Individual Rotation for reading allowed for a lot of flexibility. She was not fixed to delivering a guided-group station, say, every 25 minutes. She had the flexibility to call students to her desk to meet with them individually or in small groups as necessary. She usually used one-on-ones to meet with students about their reading progress. The process began when students signed up for a Literably assessment—an online service that listens to students read and generates an analysis of accuracy, rate, and comprehension. After they completed the assessment, and if they had leveled up, students got to meet with Rebecca

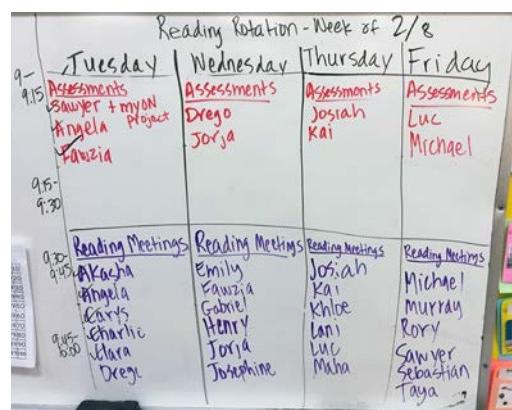


Figure 4.15 Rebecca tracked her reading one-on-one schedule on the whiteboard

one-on-one for her to congratulate them, give them a star for the reading chart, discuss their next goal, and give them a high five. The whole thing took three minutes and felt positive and relevant. **Figure 4.15** shows how Rebecca kept track of her daily schedule for reading one-one-ones using a whiteboard. Rebecca noted that she could improve this process by keeping a list of when students met with her to ensure that she was meeting with everyone equally.

## OFF-LIMITS CROWN



Figure 4.16 Rebecca wears her off-limits crown during one-on-ones

Second, Rebecca already had a tradition of putting on her “off-limits crown” when she was meeting with an individual student, which **Figure 4.16** depicts. The crown, a headband of green ivy, signified that she was giving a student her full attention and that others needed to hold their questions for after. This simple system carved out space for Rebecca to give individual coaching, even in a busy classroom of young students.

## LUCY CALKINS CONFERRING

Third, a couple of years before the pilot, Rebecca did individual reading conferences with students using the Lucy Calkins method, which involves meeting one-on-one with students for five to seven minutes and having a conversation with them about the text they’re reading, something they’re doing well as a reader, and a reading strategy or technique they should consider implementing. Rebecca reinstated this practice during the pilot because she realized that it supported the feedback goal of the pilot and amplified her coaching ability. She used it with students who were below reading level, although Lucy Calkins recommends the practice for everyone. Rebecca reflected that this conferring method takes a lot of practice because it requires teachers to diagnose reading challenges and suggest a relevant strategy on the spot, but she feels that it’s a highly responsive and personalized way to provide academic feedback.

## EDITOR CONFERENCES AND MINDSET CO-ASSESSMENTS

During the pilot, Rebecca developed two other feedback structures to improve her function as a coach. The first were editor conferences. During the animal project, Rebecca discovered a windfall of time to use at her discretion, and she decided the best use of it was to meet one-on-one with students for “editor meetings.” She explained to her students that they each got to meet with her as if she were their real-life book editor. She called them to her desk one at a time and provided academic and project-specific feedback. She helped them improve their writing by asking questions that went beyond the text, such as “What will your readers think when they read this sentence? What conclusions will they draw?”

The second new feedback opportunity was meeting with her students a few times during the pilot to discuss their mindset goals and do the co-assessments. She found time for these either during reading rotation or

while the other students were at music class. These one-on-one meetings reinforced mindset behaviors, as the Move #1 section of this chapter discusses.

Looking back, Rebecca said that the pilot led her to think more about the usefulness and impact of small-group lessons, in which she did guided reading and math word problems, compared to one-on-one feedback sessions, which took place more frequently during the pilot than they had in the past. She realized that the one-on-ones were a much more effective structure for her to understand a student's precise, at-the-moment needs and give tailored feedback. She still found value in the small-group lessons, but the pilot opened her eyes to how magical one-on-ones were for helping her be a good coach.

TO SUM UP	
Lessons learned	Impact
One-on-one meetings are better than small-group instruction for giving relevant, personal feedback and catching the nuances of individual needs.	Rebecca's esteem for one-on-ones grew, and as a result, students got more of them.
Teachers have more time for these powerful one-on-ones once they make Move #1: Teach mindsets.	Students found the one-on-ones to be more relevant, personal, and special than other types of feedback and so they especially took them to heart.



## MOVE #5: BUILD RELATIONSHIPS OF TRUST

Show interest and concern in students as individuals and trust in their ability to drive their own learning, given the right structures are in place.

Well before the pilot, Rebecca was already deeply invested in building relationships of trust with her students—that's one of the key things that made her a standout teacher. She even tried to spend an hour outside of school with each student doing an activity of the student's choice to allow them to bond. She said that she thinks the key is simply to really listen to students and to be there for them. Linda was also a noted relationship builder, with 31 years of experience in mentoring children.

The pilot made that work easier for both of them in several ways. It helped them empower their students and not micromanage, which freed up their time to talk to and listen to more students. It gave them the mindset language as a way for them to talk openly with their students about the mindsets that were holding them back or that they seemed to have a special gift for developing. It helped them look for opportunities to give feedback and connect with students individually.

Rebecca said the one-on-ones were especially key to relationship building. They allowed her to notice even small changes in a student's body language or demeanor that indicated that they needed help. She felt more connected to their lives. They also gave her insights into how to help her students, and her customized attention made her students feel that she cared about them genuinely. "Both parties became more invested," she said.

Linda said that one of her biggest discoveries of the pilot was that she needed to change her own mindsets to be able to change her students' mindsets. Her students trusted her, but did she, in turn, have a mindset of genuinely trusting them and their individual potential? This ah-ha jumped out for her after reading Carol Dweck's book *Mindset: The New Psychology of Success*. The book made her have an honest conversation with herself about her own behavior and whether she truly believed in each student's learning power. As that personal transformation happened, Linda overcame fears about turning over control. Her belief in her

students paid off as their confidence improved. One African-American student, who before had been pegged as a slow learner and underachiever, began to make marked progress with ST Math. One day after working very hard, she happily exclaimed that she had advanced a level and hadn't given up. Although she continued to struggle, her newfound attitude toward learning helped her make progress that Linda thought she would not have made without Linda's open-minded, uncapped belief in her abilities.

TO SUM UP	
Lessons learned	Impact
Use the other moves to free up time to listen to students more.	Rebecca and Linda felt more connected to their students and aware of their individual lives. They both overcame fears about releasing control. Students developed more hope and self-efficacy.
Change your own mindset to change theirs. Students can tell if you truly believe in their ability to grow in intelligence and they respond accordingly.	



## MOVE #6: HELP STUDENTS HOLD THEMSELVES ACCOUNTABLE

**GIVE THEM TOOLS TO SET GOALS, TRACK THEIR PROGRESS, AND FOLLOW THROUGH.**

Move #6 is about helping students set goals, track their progress, and follow through—similar to the accountability processes that successful organizations use to help their employees identify and track their Objectives and Key Results (OKRs). At Redwood, the first two steps of Move #6 had already been taken: Rebecca and Linda had already put structures in place to help their students set goals and track their progress. But they noticed that sometimes their students were missing the final and critical step in the accountability cycle—follow through. They used the GO Pilot as an opportunity to generate student growth in that critical final step.

## GOAL SETTING AND TRACKING PROGRESS

Redwood was not a blank slate in terms of accountability structures when the GO researchers arrived. Recently, with money from the Next Generation Learning Challenge grants, Redwood sent Rebecca, Linda, and two other teachers to Chicago to study exemplary schools. While there, Linda was particularly impressed by how some of the students were self-directed about setting goals. When she returned to Oakland, Linda implemented a goal-setting routine in her own classroom. The students' collective goal for math was for the entire class to get to 100 percent complete in the 1st-grade level of ST Math. Each student set personal goals for the progress they wanted to make. She created a wall chart and had students put a sticker on it each time they made five percentage points of progress. She showed them how to see their progress on the ST Math dashboard on their iPads. Rebecca had a similar routine. **Figure 4.17** shows a paper worksheet that students

**My ST Math Progress**



Progress at beginning of week: \_\_\_\_\_ %

My goal for the end of this week: \_\_\_\_\_ %

Date	Time Spent	Problems Solved	Progress
	 11 minutes	 29 puzzles	11% 

Made my goal?  (put sticker here)

If not, why?

Not enough sessions      Goal is too high      Didn't work as hard as I could have

other: \_\_\_\_\_

Figure 4.17 Students tracked their own progress on ST Math



Figure 4.18 The Wall of Pride and Progress for ST Math

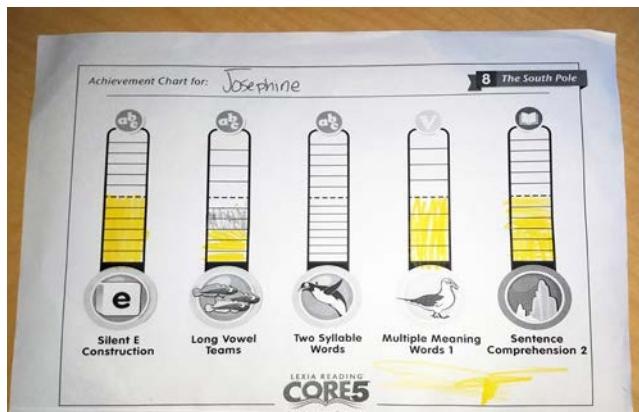


Figure 4.19 Students tracked their own progress on Lexia

persistence, and Linda now had the language to help nurture that mindset every time she met with her.

Meanwhile, other students identified that they were not using a teaming mindset to get unstuck when they had a problem. Linda helped them develop habits to improve their teaming skills. She taught those who were stuck to ask a peer for help instead of wait for her to get to them. She taught those who could give help to coach their classmates through a series of questions, such as "What have you already tried?" and "Did you remember to watch the screen when it showed you your mistake?" These teaming behaviors alleviated Linda's workload and helped students move faster. By the end of the year, all but a few students

used to track their individual ST Math progress in Rebecca's classroom and **Figure 4.18** shows Linda's "Pride and Progress" wall chart for ST Math.

Similarly, students had a routine in place for tracking their reading progress on Lexia. They colored in a notch on their Lexia trackers each time they made progress on a skill, as **Figure 4.19** depicts.

Linda observed that the goal-setting routine worked for some kids—and they made rapid progress—but for many others, the process of setting a goal and tracking it was not enough. They weren't following through with their goals, and their progress had stalled as a result.

## USING MINDSETS TO HELP STUDENTS REACH GOALS

Frustrated, Linda started thinking about how her students needed to spend more time discussing and reflecting on their goals, not just setting them. She sensed that something was missing.

Right around that time, she heard about the mindset work that Rebecca was doing with the GO Pilot. She observed Rebecca's mindset framing and reinforcement structures and it was a light bulb moment. That was the missing piece. Students needed to understand that having good mindsets helps them develop good habits and behaviors, and good habits and behaviors are what cause people to reach their goals.

As Linda started to implement Rebecca's mindset strategies, she saw a transformation take place in her classroom. One of her students had long struggled to make any progress in math. Linda talked to her about which mindset she thought she needed to develop to reach her math goals. The girl said she needed to show more passion for math and not quit even when she failed. That new framing made all the difference for her. She began to develop the habit of

got to 100 percent with ST Math—a better success rate than in the previous two years that her students had used ST Math.

TO SUM UP	
Lessons learned	Impact
<p>Setting and tracking goals isn't enough. The third part of accountability is to follow through.</p> <p>Good mindsets lead to good behaviors and habits, and those, in turn, lead to the attainment of goals. If students aren't following through with their goals, then double down on the mindset work.</p>	<p>Students became able to analyze their mindsets and habits when they were stuck. Linda's classroom completed more 1st-grade math on ST Math than ever before.</p>



## MOVE #7: HOLD YOURSELF ACCOUNTABLE

Use reflection time, peers, student surveys, and self-assessments to make sure that you are on track personally.

Rebecca and Linda had two structures to help them reflect on their own development throughout the pilot. The first was a self-assessment using the Google Oxygen Survey. In April, both teachers scored themselves on a scale of 1-4 (1 is low, 4 is high) using a version of the Google Oxygen Survey that the GO researchers provided. They evaluated how well they thought they were giving feedback, expressing interest in students' success and personal well-being, and so forth.

They gave themselves 3s on most questions, and the results weren't very illuminating. The survey could have been more helpful if it were a student survey instead of teacher self-reflection, but Rebecca and Linda's students were too young to understand it.

The second structure they had was the weekly meetings or phone calls with the GO researchers, primarily David Richards. Linda only did a few of these because of her late start with the pilot, but Rebecca did them every week. She began the conversation by summarizing what happened during the week, they reflected together, and then they planned next steps. "I knew I would have one week to implement these next steps, as I would report back to David the following week," Rebecca said. The conversations helped her stay positive, see growth, and move forward. "I was able to reflect on my failures in a productive and safe way and then plan for modifications," she said. Linda said that the questions David asked helped her stay focused on how she was using mindsets and also think critically about her students' growth.

As was the case with Kelly in Chapter 3, the Redwood teachers felt that they benefited greatly from making explicit time each week to reflect and from having someone hold them accountable—in a safe, developmental way—for their progress.

TO SUM UP	
Lessons learned	Impact
<p>Take ample time to reflect and make adjustments. Have a peer hold you accountable for implementing new strategies and reporting back about your growth.</p>	<p>Rebecca and Linda did not give up when something didn't work. The accountability helped them stay positive and make consistent progress throughout the pilot, without having periods where they lost focus.</p>

## CONCLUDING THE PILOT

Mindset development was at the heart of all of the changes that occurred during the pilot at Redwood. Rebecca and Linda focused on Move #1 as the foundation for all of the other moves. By the end of the pilot, their classrooms were fluent in recognizing, discussing, and being self-aware of mindsets. Despite their young age, the students were beginning to make the connection that good mindsets lead to good habits and behaviors, and those, in turn, lead to progress in accomplishing goals. That idea helped students feel more hope and power; when they faced an obstacle, they didn't need to depend on raw talent, which was something out of their control, and they didn't need to wait for their teacher. Instead, they began to see that they could use a mindset strategy to bring about progress on their own.

Several structures helped reinforce mindset development, such as the children's literature, mantras, mindset shout-outs, and deliberate language. Beyond that, work structures—such as the Individual Rotation for reading and the teaming activities in both classrooms—and accountability structures embedded mindset development into the culture implicitly.

The teachers changed, too. Rebecca and Linda evolved from seeing their role as teaching content to seeing their primary job as teaching students the mindsets necessary to drive their own learning.

After the pilot, Rebecca said that she thinks teaching mindsets should be a first priority at every school because that work is foundational to students knowing how to improve their own performance. Plus, she likes that the mindset work broadened her students' definition of intelligence and helped them discover gifts in themselves that they hadn't thought to notice. Linda agreed in the value of teaching mindsets; in fact, she reflected at the end that the pilot caused her to experience more mindset change in *herself* than anything else had in her previous 31 years of teaching.



## CHAPTER 4 APPENDIX

1. Mindset rubric

# MINDSET RUBRIC - 4-POINT SCALE

Developed by Rebecca Weissman for Redwood Heights Elementary School

## DESCRIBE WHAT EACH LEVEL LOOKS LIKE

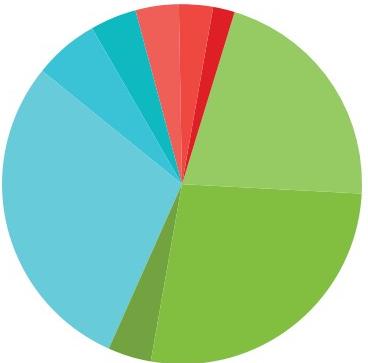
<b>PASSION</b> genuine interest in learning	1   displays little or no evidence of this mindset  There is not much that I'm interested in learning about. I don't really enjoy learning	2   displays some evidence of this mindset  I like to learn but I can't think of anything I'd like to learn about. I prefer my teacher choose what I learn about.	3   consistently displays this mindset  I like to learn. There are many things I would like to learn about. I ask adults questions about things to learn about them. Sometimes I find ways to learn about things I'm interested in without the help of an adult.	4   models and develops this mindset in others  I LOVE to learn. I enjoy working on projects and get started on them right away. There are lots and lots of things I would like to learn about and sometimes I find ways to learn about them on my own. I ask questions to find out more. I like to share what I learn with my classmates.
<b>CREATIVITY</b> defining problems, arriving at solutions	I don't really like solving problems or challenges. I'd rather someone just tell me the answer or give me an idea. I almost always need help from an adult to solve a hard problem or challenge.	Sometimes I like solving problems and challenges. Often I need help from an adult. Sometimes I can think of ideas to solve the problem or challenge on my own.	I like problems and challenges and I like trying to come up with an answer or solution. I can usually solve them on my own or with my classmates.	I enjoy working hard to figure things out. I love challenges and problems. When I work long or hard enough I can come up with lots of ideas to solve a challenge or problem on my own or with my classmates.
<b>GROWTH MINDSET</b> belief that abilities can be developed through effort and persistence	I don't think I can get smarter. When I face a challenge I give up quickly.	I think I can get smarter but I'm not sure how. When I face a challenge I give it a try but I'm not sure if I can succeed.	I know that I can get smarter. When I face a challenge I know I can succeed if I try hard enough or practice for long enough.	I get smarter by working hard. I like challenges because I know they'll make me smarter. When I face a challenge, I never give up. I just work harder, keep trying, and practice more.
<b>TEAMING</b> valuing and supporting others, leadership	I don't like working on a team. I find it very difficult to get along with teammates.	I like to work as a team but sometimes it's hard to get along with my teammates.	I like to work on a team. I listen to my teammates and try their ideas. I also share my ideas with my teammates.	I love to work on a team. I listen well to my teammates and try their ideas, even when I might disagree with them. I learn from my classmates and they learn from me. I share my ideas and encourage my team to try my ideas.
<b>AGENCY</b> ownership, empowerment, in charge of one's learning and development	I like my teacher to tell me what to learn, how to learn, where to learn, and when to learn.	I like to make choices about what, how, where, and when I learn. But sometimes I have a hard time figuring out how to do that.	I am responsible for my own learning. I often make choices about what, how, and where to learn, so I can learn the best I can. If I get stuck, I try to find ways to get unstuck.	I am responsible for my own learning. I make choices all the time about what, how, where, and when I learn, so I can learn the best I can. When I get stuck I use tools and strategies on my own that help me get unstuck. I know what to do to help myself learn better.

# 5

## KHAN LAB SCHOOL

The third school in the GO researchers' study is anything but traditional, and that was true well before the researchers showed up. Khan Lab School is an independent school that fills the first floor of an office park building in Mountain View, Calif. On the second floor is the headquarters of Khan Academy, a nonprofit organization that Sal Khan created in 2008 with the mission to provide a "free, world-class education to anyone, anywhere" by supplying a big, open library of online tutorials in math, coding, and other subjects. Sal later set up the Khan Lab School to create and test new, personalized practices that center on the student and then share them with the world.

Khan Lab School serves students ages five to 14 and is expanding to a full K-12 model. The school showcases the philosophy that Sal Khan laid out in his book *The One World Schoolhouse*, in the sense that it is a mastery-based, mixed-age program with no grade levels or grades.

Snapshot of Khan Lab School: All data is for the 2015–16 school year											
<b>Year opened</b>	2014–15	<b>Location</b>	Mountain View, Calif.								
<b>Grades served</b>	ages 5–14	<b>Total students</b>	65								
<b>Type of school</b>	Independent										
<b>Student-to-teacher ratio</b>	16-to-1 (ratio excludes assistant teachers)	<b>Free and reduced-price lunch</b>	N/A								
	<b>Student ethnicity</b>	 <table><tr><td>3.1% African American</td><td>2.1% African</td><td>21.9% Asian American</td><td>27.9% Asian (including Indian subcontinent)</td><td>4.2% Hispanic</td><td>30.2% White</td><td>6.3% Other</td><td>4.2% No response</td></tr></table>		3.1% African American	2.1% African	21.9% Asian American	27.9% Asian (including Indian subcontinent)	4.2% Hispanic	30.2% White	6.3% Other	4.2% No response
3.1% African American	2.1% African	21.9% Asian American	27.9% Asian (including Indian subcontinent)	4.2% Hispanic	30.2% White	6.3% Other	4.2% No response				

Unlike Alpha and Redwood, the lab school was designed with the spirit of a cutting-edge 21st-century workplace in its original DNA. Walk in the door and you feel more as if you're at Google or Facebook headquarters than at anything that resembles a traditional egg-carton-shaped public school. So the GO Pilot unfolded differently here from at the other two sites. Its purpose was not to transform from old to new. Instead, Mallory Dwinal, who led pilot observations at the lab school, spent the first part of the pilot looking for existing structures and aspects of the culture that would be helpful to include in this playbook. During those observations, she noticed that the lab school could go deeper with Moves #3 and #4 related to teachers being good coaches. As a result, she spent the second half of the pilot helping the school's team improve their coaching strategies.

In this chapter, we'll look first at lessons learned from the structures the lab school already had in place and then explore lessons learned as the school went deeper with Moves #3 and #4.

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## MEET THE KHAN LAB SCHOOL TEAM



Figure 5.1 Heather coaches her students on goal tracking

At the time of the pilot, the lab school had a school director, four teachers (called “lead advisors”), and two associate teachers for the 65 students. It grouped students based on their metacognitive skills, which it called “independence levels,” rather than separating students into age-based grade levels. Roughly speaking, Independence Levels 1–3 represented elementary school, Levels 4–5 were middle school, and Level 5 corresponded to the high school, which hadn’t opened yet. The school director at the time of the pilot was Orly Friedman, who helped with planning and curriculum prior to the school’s opening and has worked there ever since. Orly began her

education career at Teach For America in Washington, D.C., where she taught in public schools for five years. She earned an MBA from Stanford University.

Three lead advisors participated in the pilot. Sonia Cho had also been at Khan Lab School since its inception and was the lead advisor to the students in Independence Level 1. Prior to this role, she was an occupational therapist in schools for 15 years and homeschooled her own children. Heather Stinnett was the lead advisor to students in Independence Level 2. She taught in public and charter schools in Florida and Los Angeles prior to joining Khan Lab School. **Figure 5.1** shows Heather assisting her students with a goal tracker. Mikki McMillion was the lead advisor for the upper-elementary-age students (Independence Level 3). She taught English at Monta Vista High School, a local public school, for almost 20 years before joining the Khan Lab School team for its second year of operation.

## LIFE AT KHAN LAB SCHOOL

A day at Khan Lab School is a mix of individual, self-paced work, one-on-one coaching, and small-group projects. The physical setup of the school is a one-room schoolhouse where students ages five to 14 mix

throughout the day, with breakout rooms for more focused work or group discussions. Students are free to move throughout the space, observe their peers at work, and teach one another. The idea behind the design is to put students at the center and surround them with the resources they need to accomplish their goals. These resources could be teachers, Chromebooks, library books, or maker supplies.

The school is year-round, with five terms each year and 10 weeks off, interspersed throughout the year. The typical day begins with a morning meeting for the whole school, followed by core skill time, during which students do independent, quiet work in five “foundational fluencies”: reading, writing, math, coding, and foreign language. The afternoon is studio time, a collaborative period for students to complete hands-on, interdisciplinary projects together and apply their skills. Students also do inner-wellness and outer-wellness activities each week.

## USEFUL STRUCTURES ALREADY IN PLACE

The next part of this chapter summarizes elements of the lab school program that align with the principles of the GO Pilot. Although the school made these design choices before the pilot showed up, interestingly, they map very closely to the seven moves that the GO researchers helped the other two sites make. That alignment is not coincidental. Sal Khan began his career in the private sector, where he spent six years as a hedge fund analyst at Connective Capital Management and earned a master's in business administration from Harvard Business School. He did not plan to go into education—in fact, his online tutorials began simply as an effort to tutor his cousins in math—but when he did, he brought with him the perspective and practices of his private-sector management experience.



### MOVE #1: TEACH MINDSETS

Develop the mindsets of agency, creativity, growth mindset, and passion for learning.

Teaching mindsets is a big deal at Khan Lab School. In fact, giving students ownership of their learning and developing their agency are the animating ideas behind the school.

The lab school helps students develop the habits of agency and self-direction one step at a time through its “Independence Progression.” Instead of being divided into grade levels, students progress from Level 1 to Level 6 based on their readiness to work with increasing independence. Level 6 is considered “career ready.” Students typically span three years of age within each level—an indication that birth date does not guarantee promotion. Although parents are sometimes concerned if they think their student is being “held back” in an independence level, the lab school believes that its system works better than an age-based system in being able to determine when students are ready to move up.

Independence levels are measured by eight metacognitive skills:

- 1. Comprehension/communication** — reading and writing skills, ranging from understanding a simple text and writing complete sentences at Level 1 to synthesizing information quickly and demonstrating exceptional writing skills at Level 6
- 2. Time management** — skills related to managing time efficiently, ranging from being able to tell time on a digital and analog clock at Level 1 to being able to prioritize and multitask effectively at Level 6

- 3. Goal management** — skills related to setting and achieving goals, ranging from being able to say what a goal is and set a short-term goal at Level 1 to being able to set meaningful goals and differentiate among projects worth pursuing at Level 6
- 4. Resource management** — skills related to using external resources, ranging from knowing which adults to approach for help, being able to login to software, and handling books appropriately at Level 1 to seeking out and establishing a mentor relationship at Level 6
- 5. Self-knowledge** — self-awareness skills, ranging from evaluating when something is too hard/easy and taking care of self-care needs at Level 1 to knowing when to quit and when to persevere at Level 6
- 6. Motivation** — skills related to staying motivated, ranging from being motivated to achieve goals set by others at Level 1 to showing interest in solving complex problems and starting from a blank slate without direction at Level 6
- 7. Focus** — attention-span skills, ranging from being able to stay focused on puzzles and play-based learning for 15-minute spans at Level 1 to recognizing and being able to get into a flow state in the upper levels
- 8. Collaboration** — skills related to working well with others, ranging from sharing resources and contributing equally to projects at Level 1 to determining what roles are necessary to complete projects and evaluating one's own performance at Level 6

Khan Lab School uses a detailed rubric to describe what students at each independence level are able to do in terms of each of the eight skills. This rubric creates a common definition and language across the school. Advisors spend significant time helping students progress up the rubric, and students take the levels seriously. They discuss their progress with advisors each week when they meet for their one-on-one check-ins, and moving up the progression is part of their weekly goal setting. Students are responsible for determining when they believe they are qualified for graduating to the next level. Advisors review these requests twice a year.

These eight skills are not precisely the same as the mindsets that the GO researchers identified as prevalent in successful workplaces (namely agency, creativity, growth mindset, passion, and teaming), but the similarities are clear. As in many workplaces, the lab school has found that metacognitive skills, separate from subject-matter knowledge or technical expertise, are essential to be productive in its environment. As in many workplaces, the culture at the lab school is focused on nurturing these metacognitive skills, including through advisory one-on-one meetings, goal setting, use of the independence progression rubric, and rewarding students by advancing them to the next level. The lab school believes these skills are the vital precursor to academic achievement, just as many workplaces regard mindsets as the essential precursor to performance.

#### LESSONS LEARNED

Group students based on their mindset skills, not based on their ages.

Develop clear statements of the habits, behaviors, and abilities that correspond to each level of mindset attainment. Center the culture around reinforcing and promoting mindset development.



## MOVE #2: RELEASE CONTROL

Provide content and resources that students are free to access without your direct instruction. This control gives them ownership, develops their agency, and frees up your time.

As its name implies, the Independence Progression aims to release more control to students as soon as they evidence that they can handle it. For example, Level 1 and 2 students recently completed term projects that their advisors designed. The first group put on a production of *Peter and the Wolf* and the second designed art from nature. The Level 3 students had more input into the deliverables for their projects, which involved identifying family roles to satirize in small groups. Level 4 students took it a step further by designing the project, groupings, and deliverables as they worked to create graffiti tags that represented a value to them and the school. Level 5 students began working on their own passion projects, such as building a computer from scratch or starting a greeting card business. **Table 5.1** shows how students gain control as they advance from one independence level to the next. (Level 6 is not presented in this figure because Khan Lab School does not have a high school yet.)

Table 5.1 Students gain control as they advance in independence levels

	Level 1	Level 2	Level 3	Level 4	Level 5
Learning objectives for foundational fluencies (reading, writing, math, coding, foreign language)	Determined by teachers and specialists	Determined by teachers and specialists	Determined by teachers and specialists	Determined by teachers and specialists with input from students	Determined by student with input from teachers and specialists
Term projects	Designed by teacher	Designed by teacher	Students select project (if more than one). Students provide input into the deliverable.	Students select project (if more than one). Students provide input into the deliverable. Students choose grouping.	Everything in Level 4 plus students write the project description and define the deliverable.

Regardless of independence level, all the students have more control of their learning than they would in a non-blended setting. The morning core skills work in foundational fluencies is set up as a Flex blended-learning model. Online learning is the backbone of content and instruction and teachers provide help on a fluid schedule, which means that students can control their pace and how they move through the online content to the extent that the software provides different pathways. The lab school uses a variety of third-party content providers: Lexia Reading Core5, LightSail, Quill.org, Tynker, TypingClub, and, of course, Khan Academy.

### LESSONS LEARNED

Develop a pathway for gradually granting autonomy as students advance from one independence level to the next.

Student control is built into blended learning naturally because online learning gives students some control of pace and pathway.



## MOVE #3: ENCOURAGE TEAMING

Foster peer-to-peer learning and dynamic, team-based collaboration.

By design, opportunities to practice collaboration skills from the independence rubric are embedded in the school day at Khan Lab School. Every afternoon, students have roughly two hours of studio time for projects, which almost always take place with a partner, small group, or the entire independence level working together. During one-on-one meetings, advisors ask students about how work in their teams is going and coach students on how to manage challenging situations. Follow the URL in **Figure 5.2** to watch a YouTube clip of Sal Khan explaining his thinking about project-based learning at the lab school.



Figure 5.2 Sal Khan explains project-based learning  
Go to <https://www.youtube.com/watch?v=CIECWlgc9aw>

The lab school also wants to take advantage of the opportunity for its mixed-age, one-room model to nurture teaming behaviors across age groups, as siblings would help each other out in a family. It groups together students into 10-person family groups that span the range of five to 14 year olds. Family groups bond together through activities that they do during extended community meetings and lunch together on Fridays.

### LESSONS LEARNED

Project-based learning and mixed-age schooling provide authentic opportunities for teaming.



## MOVE #4: GIVE FEEDBACK

Create a culture of feedback so that students receive personal, frequent, and actionable feedback in the moment, in small groups, and in one-on-ones.

Prior to the GO Pilot, advisors at the lab school met with their students once per week for 30-minute one-on-ones. This meeting was their primary structure for giving feedback. There was not a defined script for the one-on-ones, but they were regular about doing them and, as a result, students benefited from more individual coaching with their teacher than if they were at a typical school.

The last section of this chapter shows how the one-on-ones evolved with the GO Pilot.



## MOVE #5: BUILD RELATIONSHIPS OF TRUST

Show interest and concern in students as individuals and trust in their ability to drive their own learning, given the right structures are in place.

The culture at Khan Lab School is that learning is a cooperative experience that students and advisors do together. One of their mantras is “everyone’s a student, everyone’s a teacher.” That attitude spills over into the student-advisor relationships. Teachers usually apply to work at the lab because they want something nontraditional, and so they know not to bring a top-down, teacher-in-charge mentality with them when they’re hired as an advisor.

One-on-one meetings are an important way that advisors and students develop a close relationship. They allow advisors to know their students as individuals, and that helps them to respond with trust even on days when a student is not on task. The GO researchers observed that advisors ask the following questions to build their relationships:

Want to start with a high five?

You were absent yesterday. How are you feeling today?

How are you doing?

How was your weekend?

Anything bugging you?

Anything else you’d like to talk about?

Any problems or anything I can help support you with?

Before we look at this week, is there something you’d like to talk about?

Videos of these conversations show a lot of smiling and laughter. Students look forward to the personal time with their advisors. The last part of this chapter dives deeper into the one-on-one meetings and how they evolved.

Another structure that supports the relationships of trust are the experiential learning activities, such as field trips, a camping trip to Point Reyes, an after-school club with a teacher to learn Hindu, and so forth. Often students serve as the leaders during these trips, with advisors on hand to offer support.



## MOVE #6: HELP STUDENTS HOLD THEMSELVES ACCOUNTABLE

Give them tools to set goals, track their progress, and follow through.

At the beginning of a term (eight weeks), students sit down with their advisor to set goals for the term and break them down into weekly objectives. Advisors support the development of students’ goal-management skills from the Independence Progression rubric and gradually release control to students as they move up independence levels. They also work with their students to decide on metrics to quantify progress numerically. Students track these metrics on a goal-tracker spreadsheet, which their advisors print out at the start of each week. The basic template for the spreadsheet is a work-in-progress, but **Table 5.2** shows the idea. The trackers help students know what they are supposed to be doing at each point in the day and how much to accomplish.

Table 5.2 Student goal tracker at Khan Lab School, with sample Week 1 data

<b>GOAL TRACKER: Term 1</b>									
		Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
CORE SKILLS	Reading	Choose book and begin reading							
	reflection	Read 5 chapters							
	Writing	Have first meeting with Susie							
	reflection	Selection of title complete							
	Math	Get to 51% on 5th grade Khan Academy							
	reflection	Got to 51%							
	Coding	Complete one Code Combat level							
	reflection	Forgot to put it in my schedule							
	Foreign Language	Complete 1 lesson							
	reflection	Almost 2 lessons! I did a lot this week							
STUDIO GOAL	Term project	Do story board							
	reflection	Story board complete							
SOCIAL & EMOTIONAL SKILLS GOAL		Say everything in a nutshell							
reflection		Helped people say it in a nutshell and did so myself							
INDEPENDENCE LEVEL GOAL		Get in flow for 30 minutes straight							
reflection		Still struggling with distractions but stayed focused for 20 minutes at a time							

Advisors also follow up on the other end by serving as accountability partners to ensure students accomplish their goals. Students reflect on their goals each week when they sit down for their one-on-one advisory meetings and they update their goals accordingly. Advisors ask question such as these:

- Did you reach this goal? Why or why not?
- How far did you get?
- What were your successes?
- What were your challenges?
- Will you change anything about how you did this next week?

## LESSONS LEARNED

To drive their own learning, students need a visual way to set, track, and manage their goals and agenda. They also need scaffolding to develop goal-setting skills.

Advisors can serve as helpful accountability partners by meeting with students at the end of each goal period to help them reflect and follow through.



## MOVE #7: HOLD YOURSELF ACCOUNTABLE

Use reflection time, peers, student surveys, and self-assessments to make sure that you are on track personally.

Khan Lab School's director, Orly Friedman, was particularly interested in providing advisors with great developmental feedback. The matter was important to her. Orly's teaching career began at Teach For America in Washington, D.C., right when Michelle Rhee took the job of chancellor of Washington, D.C. Public Schools. Michelle Rhee became famous during her tenure for shutting down poorly performing schools, including the elementary school where Orly worked, and instituting a teacher evaluation system that determined teacher bonuses and job termination. Orly thought that the chancellor could have done more to make teachers great, not only to sanction the underperformers. Teachers need developmental feedback to get better, not just evaluative feedback to determine their career paths.

The GO Pilot helped Khan Lab School use new strategies to improve coaching, including by giving advisors additional developmental feedback. The next section of this chapter explains these strategies and their effect.

## LESSONS LEARNED

Don't overlook the importance of structures and routines to give teachers developmental feedback. Evaluative feedback is not enough. Use structures such as surveys and videos of one-on-ones to inform the developmental feedback.

## GOING DEEPER WITH MOVES #3 AND #4

As she observed Khan Lab School, Mallory noticed one area where she thought her team could help the school go deeper by borrowing from the principles of the pilot: helping advisors be good coaches. Mallory was impressed by what the lab school was already doing in this regard; in particular, she noted the regularity of the one-on-ones between students and their advisors. Students had a full 30 minutes with their advisor each week—not many schools are able to pull that off. **Figure 5.3** shows Sonia meeting with a student for a one-on-one.

Mallory thought about the research out of Great Britain that named feedback as one of the interventions that yields the most monthly progress for students at the lowest cost (see the education research at the end of Chapter 1). As she watched students at the lab school leave their one-on-ones, she noticed that, without exception, the students seemed buoyed by the experience. But she also noticed that there was no real method to the one-on-ones. Each advisor steered the conversation however she chose—some more content

focused, some more toward relationship building. Could Khan Lab School improve its one-on-one meetings and, by so doing, provide valuable insights about how teachers can become good coaches? The idea resonated with Orly and her team. Khan Lab School invests significant time and resources into one-on-ones; it has an interest in using that time well. Furthermore, new advisors who join the school have little background or training in how to conduct one-on-ones. Orly wanted to give them support to make the best use of the time. She also wanted to know how students experienced the one-on-ones; are they meeting their needs? How could they make them better?

The GO researchers and Orly began by asking advisors to review the questions on a Google Oxygen Survey and score themselves based on how they thought their students would score them. The survey had 18 statements that students were to rate on a scale of 1 to 4 (1 was strongly disagree, 4 was strongly agree). The GO researchers modified the statements somewhat to translate them from a workplace setting to a school. For example, instead of "My manager gave me actionable feedback that helped me improve my performance," the GO version said "My teacher gives me feedback that I can use to improve my schoolwork." **Appendix 5.1** at the end of this chapter provides a **Google Oxygen Survey for Schools**. It includes the statements from the original Google Oxygen Survey and then a modified statement that is school-ready. They followed this up by having students take the survey. The GO researchers also filmed each of the advisors doing several one-on-one meetings with their students and debriefed with the students about what happened during the one-on-ones, what they liked about the one-on-ones, and what they wished would be different. The GO researchers posted these videos on a private YouTube channel for the advisors to access.

In May, Mallory and Jen sat down with the lab school advisors to review the results from the survey and discuss the videos. That conversation sparked others, and in the end, a few takeaways began to emerge.



Figure 5.3 Students have weekly one-on-one meetings with their advisors

## THE POWER OF WEEKLY 30-MINUTE ONE-ON-ONES

The first finding was that weekly 30-minute one-on-ones are powerful structures to build relationships between students and advisors, keep students focused on and accountable for reaching goals, and give academic, project, and mindset feedback. The power of this structure was clear from both the GO researchers' debriefs with students and from Google Oxygen Survey data, both of which were impressively positive. The average Oxygen survey score for the 34 respondents was 3.4 on a 4.0 scale, and 15 of the 18 traits scored 3.3 or higher. The highest score was 3.8, accompanying two statements: "My teacher works hard to help us learn" and "My teacher cares about me." The lowest score was 2.5, accompanying the statement "My teacher tells me about competitions, lessons, programs and events outside of school that I would like." Granted the GO researchers did not have benchmark data to use to compare these results, but the fact remains that students voiced strong approval for the job their advisors were doing as coaches.

Mallory and Jen's debriefs with students established that the weekly 30-minute one-on-ones were the primary mechanism through which advisors built this coaching relationship.

## SUPPORT TEACHERS TO HELP THEM COACH WELL

The second finding was that the advisors benefited from analyzing the Google Oxygen Survey and watching the recordings of their sessions. These activities served as mirrors for them to hold up and see how they were doing as coaches. They started to notice things they hadn't seen before. For example, although they thought that the one-on-ones were effective in helping students improve their social and emotional skills, the survey results showed that students gave lukewarm scores to the statement, "My teacher cares about my having friends at school." And although they thought they were offering plenty of help during the one-on-ones to assist students in reaching their goals, many students did not agree with the statement, "My teacher gives me resources, such as books, websites, or materials, that help me with my personal goals."

Moreover, advisors discovered that they had different areas where they each needed to improve. In reviewing the video footage, one of the advisors noticed that she was good at showing her students that she cared about and believed in them. She said things such as, "We're going to rock it this week," "You can totally do this," and "I'm here to support you, so if there's anything you need from me, you know what to do." But she noticed that she could improve in helping her students understand how their work and behavior were being evaluated. She set a goal to add coaching questions to her repertoire such as, "What does quality look like for your term project?" and "What is the expectation for moving to the next independence level?" Meanwhile, another advisor found that she was good at helping students set and adjust goals, but she had work to do to express more interest and concern for students' success and personal well-being. She set a goal to start asking questions such as, "Who did you hang out with this week?," "How did you support your team this week?," and "I noticed that you were able to be awesome with \_\_\_\_."

These observations helped the advisors set personal goals for ways they would improve their one-on-ones. One simple way to review video footage of one-on-ones is by creating a spreadsheet that lists the 18 attributes from the Google Oxygen Survey in the left column and then lists each of the teacher's names along the top. As you watch the video footage, write down each comment or question the teacher says that aligns to one of the 18 attributes. Then, sit down together as a group and analyze the spreadsheet, looking for areas where each teacher is giving plenty of attention and where there are gaps. **Appendix 5.2** at the end of this chapter provides an example of this tool.

The advisors found that one of the keys to discovering their strengths and weaknesses was by sitting down together, such as this, to review survey data and video footage as a group. That finding is consistent with the other pilots. In Chapters 3 and 4, Kelly, Rebecca, and Linda also found that structured reflection sessions with peers were the most helpful ways that they held themselves accountable during their pilots.

## TAILORING THE QUESTIONING STRATEGIES

As they watched the videos, the GO researchers noticed that students needed different types of support, depending on their independence level. Sonia's group in Independence Level 1 was just beginning to set goals. They needed personal tutoring with the content and then help connecting the content to academic goals. Heather's group in Independence Level 2 knew how to set goals, but they needed help overcoming obstacles in their way to reaching them, such as running out of time or getting distracted. Mikki's group in Independence Level 3 could identify strategies for overcoming obstacles, but they needed help sometimes

in executing them. Finally, the middle school students in Level 4 wanted help with deeper abstract reasoning. **Figure 5.4** summarizes how the nature of the one-on-ones changed by independence level. The GO researchers' take away was that teachers may find that the questioning strategies that work best during one-on-ones will vary depending on students' independence levels.

The analysis also inspired the idea that Khan Lab School's advisors, and particularly any who were new, would benefit from a question bank to support their coaching efforts during one-one-ones. A menu of questions would help them focus intentionally on the different elements of being an effective coach. Orly compiled this question bank over the summer following the pilot. It is included in Appendix 5.3 at the end of this chapter.

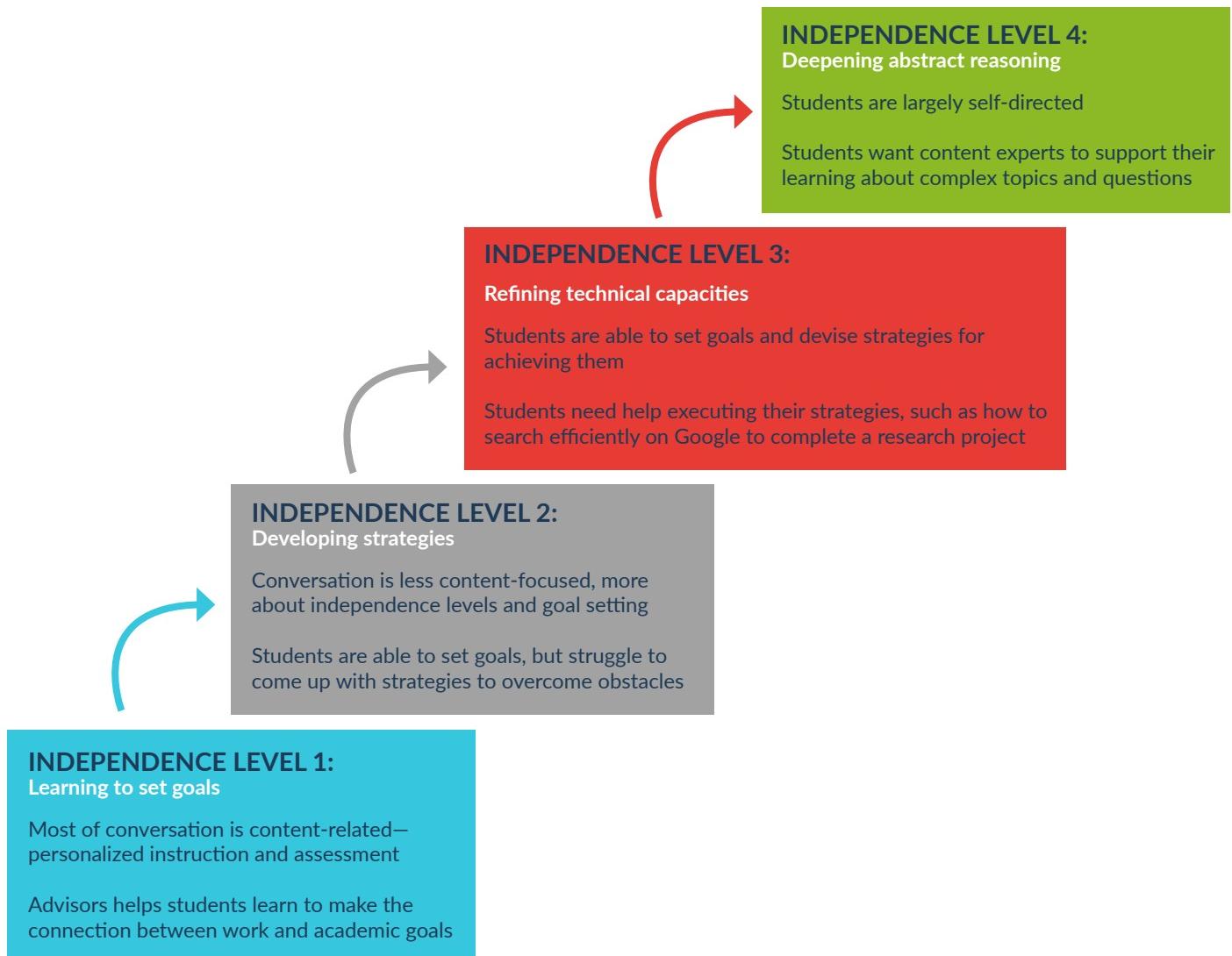


Figure 5.4 Questioning strategies vary based on independence level

TO SUM UP	
Lessons learned	Impact
Weekly 30-minute one-on-ones are powerful structures to build relationships between students and advisors, keep students focused on and accountable for reaching goals, and give academic, project, and mindset feedback.	Khan Lab School decided to use Google Oxygen Surveys regularly to improve coaching. Using Google Oxygen Survey data and video footage, advisors identified their own areas of weakness and created personal goals for improvement. The school implemented a question bank.
Teachers need support to help them coach well, such as by helping them analyze Google Oxygen Survey data and the questions that they use during one-on-ones. It was helpful to do this analysis together as a group.	
Effective questioning strategies vary based on students' independence level, as measured by metacognitive skills.	

## CONCLUDING THE PILOT

As a laboratory for innovation, change is a constant at Khan Lab School. So even if the GO Pilot never showed up, Khan Lab School would look different each year. But some of the changes it experienced during spring and summer 2016 are directly attributable to the GO Pilot's influence. The biggest paradigm shift was that the advisory team thought a lot more about their role as coaches and how to embrace the attributes of good coaching that managers in well-run companies have brought to light. They now explicitly measure themselves using the Google Oxygen Survey and meet together to discuss their personal goals for developing each of the attributes that survey identified. Their one-on-one meetings with students, which before were routine and unsystematic, have become a major strategic imperative, and the lab school is building out its question bank in an effort to master the art of the one-on-one as its primary way of giving feedback.

These new structures emerged toward the end of the GO researchers' time at Khan Lab School. For the most part, they are being tested in the 2016–17 school year. Although the long-term effects are yet to be seen, several principles of good coaching are now in place to put Khan Lab School at the forefront of modeling how teachers can magnify their role in modern classrooms by redefining themselves as excellent coaches.



## CHAPTER 5 APPENDIX

1. Google Oxygen Survey for Schools
2. Tool for analyzing video footage of one-on-ones
3. Question Bank

## GOOGLE OXYGEN SURVEY FOR SCHOOLS

GOOGLE OXYGEN Manager behavior	GOOGLE OXYGEN Survey question	GO PILOT Survey question for schools
1. Be a good coach	1. My manager gave me actionable feedback that helped me improve my performance.  2. My manager helped me understand how my performance was evaluated.  3. My manager regularly gave me positive feedback for things I did well.  4. My manager was quick to grant credit to team members for their work.	a) My teacher gives me feedback that I can use to improve my schoolwork.  b) My teacher tells me how my work and behavior are evaluated.  c) My teacher often gives me positive feedback for things I do well.  d) My teacher praises me in front of others for my work and behavior.
2. Empower / do not micro-manage	5. My manager did not "micro-manage" (i.e., get involved in details that should be handled at other levels).  6. My manager helped me navigate barriers and roadblocks (e.g., insufficient resources, conflicting priorities) that prevented me from working effectively.	a) My teacher lets me find solutions to my own problems. My teacher does not tell me what to do all the time.  b) My teacher gives me strategies that help me get my work done.
3. Express interest/concern for students' success and personal well-being	7. My manager showed consideration for me as a person.	a) My teacher cares about me b) My teacher helps me feel like I am part of the school community. c) My teacher cares about me having friends at school.
4. Be productive and results-oriented	8. My manager kept the team focused on our priority results/deliverables.	a) My teacher keeps me focused on my goals and what I need to do to achieve them.
5. Be a good communicator	9. My manager regularly shared relevant information from his/her managers and senior leadership.	a) My teacher regularly shares important information about our advisory group, school, and the community.
6. Help with career development?	10. My manager had a meaningful discussion with me about my career development at least once every six months.  11. My manager helped me identify opportunities (e.g., projects, learning programs) to develop my skills and career.	a) My teacher has meaningful discussions with me about my independence and academic progress.  b) My teacher gives me resources, such as books, websites or materials, that help me with my personal goals. c) My teacher tells me about competitions, lessons, programs and events outside of school that I would like.
7. Have a vision	12. My manager communicated clear goals for our team.  13. My manager made decisions that serve the best interests of the company overall.	a) My teacher communicates clear expectations about how we behave and the quality of our work.  b) My teacher works hard to help us learn. c) My teacher is a good role model.
8. Use technical skills / content knowledge to	14. My manager had the technical experience required to effectively manage me.  15. My manager worked side-by-side with the team to get things done when needed.	a) My teacher explains difficult concepts clearly.  N/A

## TOOL FOR ANALYZING VIDEO FOOTAGE OF ONE-ON-ONES

GOOGLE OXYGEN SURVEY FOR TEACHERS	TEACHER 1	TEACHER 2	TEACHER 3
My teacher gives me feedback that I can use to improve my schoolwork.			
My teacher tells me how my work and behavior are evaluated.			
My teacher often gives me positive feedback for things I do well.			
My teacher praises me in front of others for my work and behavior.			
My teacher lets me find solutions to my own problems. My teacher does not tell me what to do all the time.			
My teacher gives me strategies that help me get my work done.			
My teacher cares about me.			
My teacher helps me feel like I am part of the school community.			
My teacher cares about me having friends at school.			
My teacher keeps me focused on my goals and what I need to do to achieve them.			
My teacher regularly shares important information about our advisory group, school, and the community.			
My teacher has meaningful discussions with me about my independence and academic progress.			
My teacher gives me resources, such as books, websites, or materials, which help me with my personal goals.			
My teacher tells me about competitions, lessons, programs and events outside of school that I would like.			
My teacher communicates clear expectations about how we behave and the quality of our work.			
My teacher works hard to help us learn.			
My teacher is a good role model.			
My teacher explains difficult concepts clearly.			

## QUESTION BANK

	LEVEL 1 EXPRESS CONCERN FOR STUDENTS' SUCCESS AND PERSONAL WELL-BEING	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
a) My teacher cares about me	How's everything going? How was your weekend? How are you feeling today? Anything bugging you or anything I can help support you with? Anything else you'd like to talk about?	How's everything going? How was your weekend? How are you feeling today? Anything bugging you or anything I can help support you with? Anything else you'd like to talk about?	How's everything going? How was your weekend? How are you feeling today? Anything bugging you or anything I can help support you with? Anything else you'd like to talk about?	How's everything going? How was your weekend? How are you feeling today? Anything bugging you or anything I can help support you with? Anything else you'd like to talk about?	How's everything going? How was your weekend? How are you feeling today? Anything bugging you or anything I can help support you with? Anything else you'd like to talk about?
b) My teacher helps me feel like I am part of the school community.	How's school going? What was the best thing that happened in school last week? Anything you wish would be different?	How's school going? What was the best thing that happened in school last week? Anything you wish would be different?	How's school going? What was the best thing that happened in school last week? Anything you wish would be different?	How's school going? What was the best thing that happened in school last week? Anything you wish would be different?	How's school going? What was the best thing that happened in school last week? Anything you wish would be different?
c) My teacher cares about my having friends at school.	How are your friendships going? Who have you been hanging out with this week? Any tough spots you want to talk about? What happened?	How are your friendships going? Who have you been hanging out with this week? Any tough spots you want to talk about? What happened?	How are your friendships going? Who have you been hanging out with this week? Any tough spots you want to talk about? What happened?	How are your friendships going? Who have you been hanging out with this week? Any tough spots you want to talk about? What happened?	How are your friendships going? Who have you been hanging out with this week? Any tough spots you want to talk about? What happened?
d) My teacher believes in me (added)	I think you can do it. What do you think? Is there anything I can do to support you?	I think you can do it. What do you think? Is there anything I can do to support you?	I think you can do it. What do you think? Is there anything I can do to support you?	I think you can do it. What do you think? Is there anything I can do to support you?	I think you can do it. What do you think? Is there anything I can do to support you?

QUESTION BANK CONTINUED ON NEXT PAGE...

# QUESTION BANK CONTINUED

BE PRODUCTIVE AND RESULTS ORIENTED	a) My teacher keeps me focused on my goals and what I need to do to achieve them - set goals	What would you like to get better at? What you want to practice? What do you think about ...? How can we say that as a goal? Your new goal is to be at what level? How long do you think it might take? How frequent, like once a day, twice a week? What do you think of that goal? Is this goal too big, too small, just right?	What would you like to get better at? <b>What do you want to improve on?</b> What you want to practice? What do you think about ...? How can we say that as a goal? Your new goal is to be at what level? How long do you think it might take? How frequent, like once a day, twice a week? What do you think of that goal? Is this goal too big, too small, just right?	What's your plan? What could you do to work on your goal? What's a good time to ... How can we remind ourselves to ...? Do you think you can do that?  - make a plan	What's your plan? What could you do? What will you do? When do you want to ...? Is there anything you need? How do you feel about your plan?	What's your plan? What can we commit to this week? What could you do? What will you do? How can we practice ...? How can we demonstrate ...? Can you be more specific? When do you want to ...? How much time can you commit to? Who are you doing this with? Is there anything you need? How do you feel about your plan?	What's your plan? How is ___ going? How do you feel about ___? What's your goal? How much progress have you made? Can you show me ...? Did you meet your goal? What do you still need to work on? How much more time do you think you'll need? Anything you're stuck on or worried about? Any problems you'd like me to know about? Is there anything you need help on?	What do you want to improve on? <b>Why did you choose this goal?</b> What is something you hope to get out of that? What progress can we make here? How does doing this show ...? How do you know when ...? How we can measure ...? What do you think of that goal?	What do you want to improve on? <b>Why did you choose this goal?</b> What is something you hope to get out of that? What progress can we make here? How does doing this show ...? How do you know when ...? How we can measure ...? What do you think of that goal?	What do you want to improve on? <b>Why did you choose this goal?</b> What is something you hope to get out of that? What progress can we make here? How does doing this show ...? How do you know when ...? How we can measure ...? What do you think of that goal?	What's your plan? What can we commit to this week? What could you do? What will you do? How can we practice ...? How can we demonstrate ...? Can you be more specific? When do you want to ...? How much time can you commit to? Who are you doing this with? Is there anything you need? How do you feel about your plan?	What's your plan? How is ___ going? How do you feel about ___? What's your goal? How much progress have you made? Can you show me ...? Did you meet your goal? What do you still need to work on? How much more time do you think you'll need? Anything you're stuck on or worried about? Any problems you'd like me to know about? Is there anything you need help on?	What's your plan? How is ___ going? How do you feel about ___? What's your goal? How much progress have you made? Can you show me ...? Did you meet your goal? What do you still need to work on? How much more time do you think you'll need? Anything you're stuck on or worried about? Any problems you'd like me to know about? Is there anything you need help on?

## QUESTION BANK CONTINUED

	<p>What happened? What have you tried so far? What else could you do? What can we try this week? What are some possible solutions? I notice ... / I wonder ...</p>	<p>What happened? What have you tried so far? How is that working for you? <b>Why do you think ...?</b> I'm wondering if the goal is <u>too</u> <u>too</u>, or if ...? What can we try this week? What else could you do? What are some possible solutions? I notice ... / I wonder ...</p>	<p>What happened? What have you tried so far? How is that working for you? <b>Why do you think ...?</b> I'm wondering if the goal is <u>too</u> <u>too</u>, or if ...? What can we try this week? What else could you do? What are some possible solutions? I notice ... / I wonder ...</p>	<p>What happened? What have you tried so far? How is that working for you? <b>Why do you think ...?</b> I'm wondering if the goal is <u>too</u> <u>too</u>, or if ...? What can we try this week? What else could you do? What are some possible solutions? I notice ... / I wonder ...</p>
- troubleshoot	<p>What did you learn? How did you improve? What helped you meet your goal? What would you do again? Anything you wish you had done differently?</p>	<p>What did you learn? How did you improve? What helped you meet your goal? What would you do again? Anything you wish you had done differently?</p>	<p>What did you learn? How did you improve? What helped you meet your goal? What would you do again? Anything you wish you had done differently?</p>	<p>What should we do next time? How would you like to change your goal? What do you think about ... ?</p>
- reflect	<p>Do you want to continue with this same goal? Should we update that goal? Should we make a new goal? What do you think about ... ?</p>	<p>Do you want to continue with this same goal? Should we update that goal? Should we make a new goal? What do you think about ... ?</p>	<p>What should we do next time? How would you like to change your goal? What do you think about ... ?</p>	<p>What should we do next time? How would you like to change your goal? What do you think about ... ?</p>
- adjust goals				QUESTION BANK CONTINUED ON NEXT PAGE...

# QUESTION BANK CONTINUED

BE A GOOD COACH	I like how you ... My favorite part ... I noticed ... What is one way you could improve...? What if ...? Have you considered ...? One thing that might be interesting is ...	I like how you ... My favorite part ... I noticed ... What is one way you could improve...? What if ...? Have you considered ...? One thing that might be interesting is ...	I like how you ... My favorite part ... I noticed ... What is one way you could improve...? What if ...? Have you considered ...? One thing that might be interesting is ...	I like how you ... My favorite part ... I noticed ... What is one way you could improve...? What if ...? Have you considered ...? One thing that might be interesting is ...
b) My teacher tells me how my work and behavior are evaluated.				
c) My teacher often gives me positive feedback for things I do well.				
FACILITATE LEARNING	I love how you... You did a great job ... I have to compliment you for ... I appreciate your ... I was really impressed with ... I noticed that you were awesome with ... I noticed you ___. Nice work.	I love how you... You did a great job ... I have to compliment you for ... I appreciate your ... I was really impressed with ... I noticed that you were awesome with ... I noticed you ___. Nice work.	I love how you... You did a great job ... I have to compliment you for ... I appreciate your ... I was really impressed with ... I noticed that you were awesome with ... I noticed you ___. Nice work.	I love how you... You did a great job ... I have to compliment you for ... I appreciate your ... I was really impressed with ... I noticed that you were awesome with ... I noticed you ___. Nice work.
a) My teacher gives me feedback that I can use to improve my schoolwork.				

QUESTION BANK CONTINUED ON NEXT PAGE...

## QUESTION BANK CONTINUED

EMPOWER STUDENTS	What happened? What went wrong? What keeps us from ...? What do you want to happen? Why do you think ...? I notice ...  How did you handle it? What have you tried? What could you do?	What happened? What went wrong? What keeps us from ...? What do you want to happen? Why do you think ...? I notice ...  How did you handle it? What have you tried? What strategies have you tried so far? What could you do?	What happened? What went wrong? What keeps us from ...? What do you want to happen? Why do you think ...? I notice ... Do we have enough information? How did you handle it?  How did you handle it? What have you tried? What strategies have you tried so far? What could you do?	What happened? What went wrong? What keeps us from ...? What do you want to happen? Why do you think ...? I notice ... Do we have enough information? How did you handle it?  How did you handle it? What have you tried? What strategies have you tried so far? What could you do?
a) My teacher lets me find solutions to my own problems. My teacher does not tell me what to do all the time.	Have you tried ... Do you ever ... One thing that might be helpful ... Maybe you can ...  What will you do? How do you feel about that? What can I do to help?	Have you tried ... Do you ever ... One thing that might be helpful ... Maybe you can ...  What will you do? How do you feel about that? What can I do to help?	Have you tried ... Do you ever ... One thing that might be helpful ... Maybe you can ...  What will you do? How do you feel about that? What can I do to help?	Have you tried ... Do you ever ... One thing that might be helpful ... Maybe you can ...  What will you do? How do you feel about that? What can I do to help?
b) My teacher gives me strategies that help me get my work done.				

QUESTION BANK CONTINUED ON NEXT PAGE...

## QUESTION BANK CONTINUED

HELPS STUDENTS DEVELOP INDEPENDENCE AND ACADEMICS			
a) My teacher gives me resources, such as books, websites or materials, that help me with my personal goals.	<p>I'll show you where to get ... I'll get you/your parent ... Have you seen ____? Lets look for ... Do you need any supplies? Do you have access to ____ at home?</p>	<p>I'll show you where to get ... I'll get you/your parent ... Have you seen ____? Lets look for ... Do you need any supplies? Do you have access to ____ at home?</p>	<p>I'll show you where to get ... I'll get you/your parent ... Have you seen ____? Lets look for ... Do you need any supplies? Do you have access to ____ at home?</p>
b) My teacher tells me about competitions, lessons, programs and events outside of school that I would like	<p>What's your favorite thing to do in school? What are things you love to do outside of school? Is there anything you wish you could do more of or learn more about? I think you'd really enjoy ____. What do you think? I think you'd be really good at ____. What do you think? _____. What do you think? What would you think about ...? Would you want to try ...?</p>	<p>What's your favorite thing to do in school? What are things you love to do outside of school? Is there anything you wish you could do more of or learn more about? I think you'd really enjoy ____. What do you think? I think you'd be really good at ____. What do you think? _____. What do you think? What would you think about ...? Would you want to try ...?</p>	<p>What's your favorite thing to do in school? What are things you love to do outside of school? Is there anything you wish you could do more of or learn more about? I think you'd really enjoy ____. What do you think? I think you'd be really good at ____. What do you think? _____. What do you think? I think you'd make a really strong _____. What do you think? What would you think about ...? Would you want to try ...?</p>
c) other opportunities for learning or growth (added)	<p>Let's set up some time for that. Do you want to set up a time to meet with ...? Let's make an appointment with ... Would you like to work with ...?</p>	<p>Let's set up some time for that. Do you want to set up a time to meet with ...? Let's make an appointment with ... Would you like to work with ...?</p>	<p>Let's set up some time for that. Do you want to set up a time to meet with ...? Let's make an appointment with ... Would you like to work with ...?</p>
d) arranges support when I need it (added)			<p>I'll show you where to get ... I'll get you/your parent ... Have you seen ____? Lets look for ... Do you need any supplies? Do you have access to ____ at home?</p>

# 6

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## LESSONS LEARNED FOR TEACHERS

The GO researchers went into the pilots hoping to learn more about how both teachers and the top managers in well-ranked companies are creating happy environments that lead to positive results and inspiring workers and students alike to keep coming back and putting in the effort. During the pilots, the teachers made seven moves to import the practices that the most successful managers use to create those types of environments:

1. Teach mindsets
2. Release control
3. Encourage teaming
4. Give feedback
5. Build relationships of trust
6. Help students hold themselves accountable
7. Hold yourself accountable

At Alpha, Kelly Kosuga's moves resulted in shifting from using big chunks of time for teacher-led instruction to devoting nearly the entire math block to student-driven learning.

Kelly could spend nearly all her time giving feedback; that became Kelly's primary function during class. Kelly's relationships with and connection to students became stronger as a result. Students' productive use of work time also improved dramatically. By the end of the pilot, Kelly rarely needed to redirect students toward their work and students even requested more time to get work done.

At Redwood, Rebecca Weissman and Linda Rogers's very young students grew comfortable with the complicated skill of evaluating and improving their own mindsets. Their improved mindsets made it easier for the teachers to trust that they could give the students more choices and control. Students began to complete projects without teachers micromanaging them, and student engagement shot up. The teachers felt less tired. They also felt more connected to their students and aware of their individual lives. Students developed more hope and self-efficacy.

Unlike Alpha and Redwood, Khan Lab School was designed with the spirit of a cutting-edge, 21st-century workplace in its original DNA. Sal Khan and his team understood the value of team empowerment, good coaching, and accountability well before the GO researchers arrived. From there, the GO researchers helped the lab school refine its strategy by introducing Google Oxygen Surveys and developing a question bank to improve student-advisor coaching sessions. Advisors became more self-aware of their strengths and weaknesses as coaches and had new tools to help them improve.

The teachers and advisors at the three sites learned several specific lessons as they made the moves. Below are the truths that emerged for each of them.

## LESSONS LEARNED: EMPOWER THE TEAM AND DO NOT MICROMANAGE

At all three sites, students needed very clear explanations about mindsets, and they needed to see these spelled out as explicit habits and behaviors. The change for teachers from thinking of themselves as content experts to mindset cultivators was revolutionary. They realized that students really could govern themselves if taught how to approach learning with agency, creativity, growth mindset, passion, and teaming habits.

The teachers also found that an essential ingredient for releasing control is to provide tools that enable independent learning. They all landed on the Individual Rotation and Flex blended-learning models as among the most powerful structures for releasing control. They were also all drawn to teaming as a way for students to work together to drive their own learning without needing to call out for teacher help.



### MOVE #1: TEACH MINDSETS

Develop the mindsets of agency, creativity, growth mindset, and passion for learning.

Alpha	Redwood	Khan
Focus on actionable and observable behaviors associated with each mindset, such as with a checklist of habits.	Introduce and frame the mindsets up front so that students understand them, such as through children's literature and mantras.	Group students based on their mindset skills, not based on their ages.
	Reinforce the mindsets, such as with posters, shout-outs, co-assessments, and developing a common language.	Develop a rubric of the habits, behaviors, and abilities that correspond to each level of mindset attainment. Center the culture around reinforcing and promoting mindset development.



### MOVE #2: RELEASE CONTROL

Provide content and resources that students are free to access without your direct instruction. This control gives them ownership, develops their agency, and frees up your time.

Alpha	Redwood	Khan
Reduce the amount of teacher-directed learning, such as eliminating a teacher-led station in a rotation model.	Provide tools that enable independent learning, such as online-learning software. An Individual Rotation gives more flexibility to nurture agency than a Station Rotation.	Develop a pathway for gradually granting autonomy as students advance from one independence level to the next.
Provide tools that enable independent learning, such as online-learning software and peer coaches.	Give students decision-making power to drive their own learning and apply mindset skills, such as by providing options during an Individual Rotation and choice during group projects.	Student control is built into blended learning naturally because online learning gives students some control of pace and pathway.
Scaffold the process, such as by gradually increasing the length of the work sprints, keeping a minimum pace, and using formative assessments.	Provide clear, written instructions up front so that students are not dependent on face-to-face teacher direction.	

**MOVE #3: ENCOURAGE TEAMING**

Foster peer-to-peer learning and dynamic, team-based collaboration.

Alpha	Redwood	Khan
Set up the furniture and organize the student teams to optimize the environment for collaboration. Use team builders to build trust and relationships among students.	Replace “groups” with teams by developing projects that require the collective effort of a team to be successful.	Project-based learning and mixed-age schooling provide natural opportunities for teaming.
Spontaneous teaming is more likely to happen if students can work with peers outside of their teams on a need help/give help basis.		
Take teaming a step further through peer-based training, in which peers are certified to give feedback, evaluate, and certify other students.		

## LESSONS LEARNED: BE A GOOD COACH

Before the piloting phase, the GO researchers had not identified one-on-ones as particularly important in cutting-edge workplaces. Interestingly, the value of one-on-ones jumped out when the researchers began observing the pilots. That led the GO researchers to return to their phase I research about top workplaces and notice that one-on-ones had been a key ingredient all along, they just hadn't picked up on that pattern.

By the end of the pilots, all three sites found that one-on-ones between teachers and students were one of the best ways for teachers to use the time they gained from releasing control. That discovery has implications for the personalized learning movement. Some opponents say that technology dehumanizes classrooms. The GO researchers found, however, that the opposite can happen. Teachers can use technology to free up their time so that they can have *more* human interaction and one-on-one relationships with students than they did before the computers arrived.

**MOVE #4: GIVE FEEDBACK**

Create a culture of feedback so that students receive personal, frequent, and actionable feedback in the moment, in small groups, and in one-on-ones.

Alpha	Redwood	Khan
Mindset feedback is critical for developing behaviors and mindsets that enable students to own their own learning and for freeing up teacher time to give academic and project-specific feedback.	One-on-one meetings are better than small-group instruction for giving relevant, personal feedback and catching the nuances of individual needs. Teachers have more time for these powerful one-on-ones once they make Move #1.	Provide teachers with support to help them coach well, such as by giving them data about how their students view their coaching and by providing questions that they can use during one-on-ones. They benefit from doing this analysis together as a group.

Discover students' real-time needs using formative assessments and by seeing their work as they do it, such as by asking them to do their work on a whiteboard.		
Use responsive feedback structures, such as small-group mini-lessons, one-on-one meetings, and speed conferencing.		
<b>MOVE #5: BUILD RELATIONSHIPS OF TRUST</b> Show interest and concern in students as individuals and trust in their ability to drive their own learning, given the right structures are in place.		
<b>Alpha</b>	<b>Redwood</b>	<b>Khan</b>
Empowering students to take control over their own learning and supporting them in building habits that lead to success also build trust between the coach and students.	Use the other moves to free up time to listen to students more.	Attend to the whole child during one-on-ones; a question bank can provide helpful prompts.
Students respond favorably to coaches who are encouraging, positive, and caring.	Develop a mindset of trust and belief in each student. Students can tell if the teacher truly believes in their ability to grow in intelligence and they respond accordingly.	

## LESSONS LEARNED: EMPHASIZE ACCOUNTABILITY

All of the teachers in the pilots found success in giving students trackers to help them keep tabs on their own goals and progress. The teachers learned to ask better questions to help their students follow through with their goals. Kelly began to ask, "What habits are you going to use so that you pass Algebra I?" Rebecca and Linda asked, "Which mindset do you need to work on to reach your goal with ST Math or Lexia?" The advisors at the Khan Lab School, who noticed that they weren't asking enough of these sorts of questions, made personal goals to improve.

At Alpha and Redwood, students and teachers made paradigm shifts about the important link between mindsets, behaviors and habits, and achieving goals. They found that students need to understand that having good mindsets helps them develop good habits and behaviors, and good habits and behaviors are what, in turn, cause them to reach their goals.

The teachers also all found that they needed to be working on their own mindsets, habits, and goals. They found value in consistently meeting with peers to reflect, get feedback, and make adjustments.

**MOVE #6: HELP STUDENTS HOLD THEMSELVES ACCOUNTABLE**

Give them tools to set goals, track their progress, and follow through.

Alpha	Redwood	Khan
Make the grading system and student progress transparent, such as by giving students access to cumulative grades.	Setting and tracking goals isn't enough. The third part of accountability is to follow through.	To drive their own learning, students need a visual way to set, track, and manage their goals and agenda. They also need scaffolding to develop goal-setting skills.
Provide tools to help students stay organized, such as a paper-based tracker that corresponds to online progress and help with binders.	Good mindsets lead to good behaviors and habits, and those, in turn, lead to the attainment of goals. If students aren't following through with their goals, then double down on the mindset work.	Advisors can serve as helpful accountability partners by meeting with students at the end of each goal period to help them reflect and follow through.

**MOVE #7: HOLD YOURSELF ACCOUNTABLE**

Use reflection time, peers, student surveys, and self-assessments to make sure that you are on track personally.

Alpha	Redwood	Khan
Take ample time, ideally with a peer, to reflect and make improvements each week.	Take ample time to reflect and make adjustments. Have a peer hold you accountable for implementing new strategies and reporting back about your growth.	Don't overlook the importance of structures and routines to give teachers developmental feedback. Evaluative feedback is not enough. Use structures, such as surveys and videos of one-on-ones, to inform the developmental feedback.
Ask your students for feedback and listen to it.		

## YOU CAN DO THIS

Teachers, your students are not identical to those at Alpha, Redwood, or Khan Lab School. You have your own stories and circumstances. This playbook is not intended to point to the one right way. Rather, its purpose is to illuminate a number of principles and practices that are driving the success at high-performing organizations—where the people are happy and the workplaces are humming—and show that similar strategies are well within your reach as well. Kelly, Rebecca, Linda, and the Khan Lab School advisory team were in different places when they started their pilots. For some teachers, getting to where the pilot teachers landed could take several months. For others, you are well on your way already. Regardless of where you are on that path, the examples in this book should give you hope that you have the power to remake your classroom into a happier, higher-performing environment, similar to the best places to work in America, simply by taking it one move at a time.



## About the Institute

The Clayton Christensen Institute for Disruptive Innovation is a nonprofit, nonpartisan research organization dedicated to improving the world through disruptive innovation. Founded on the theories of Harvard professor Clayton M. Christensen, the Institute offers a unique framework for understanding many of society's most pressing problems. Its mission is ambitious but clear: work to shape and elevate the conversation surrounding these issues through rigorous research and public outreach.

## About the author



Heather Staker is the founder of Ready to Blend, a training firm specializing in blended learning for K-12 schools. She is the co-author of the Amazon bestseller *Blended: Using Disruptive Innovation to Improve Schools* and an adjunct research fellow for the Clayton Christensen Institute.



# SOURCES

<sup>1</sup>The story of Project Oxygen is from Laszlo Bock, *Work Rules! Insights from Google that Will Transform How You Live and Lead* (New York: Twelve, 2015).

<sup>2</sup>Bock, p. 195.

<sup>3</sup>Bock, p. 197.

<sup>4</sup>Marcus Buckingham and Ashley Goodall, "Reinventing Performance Management," *Harvard Business Review*, April 2015, <https://hbr.org/2015/04/reinventing-performance-management> (accessed August 17, 2016).

<sup>5</sup>"Teaching & Learning Toolkit," Education Endowment Foundation, <https://educationendowmentfoundation.org.uk/evidence/teaching-learning-toolkit/> (accessed June 25, 2016).

<sup>6</sup>Two other interventions that yield at least five months of impact include homework (for high school students) and early years intervention.

<sup>7</sup>Eric Toshalis and Michael J. Nakkula, "Motivation, Engagement, and Student Voice," Jobs for the Future and Nellie Mae Education Foundation, April 2012, p. 27, [http://www.studentsatthecenter.org/sites/scl.dl-dev.com/files/Motivation%20Engagement%20Student%20Voice\\_0.pdf](http://www.studentsatthecenter.org/sites/scl.dl-dev.com/files/Motivation%20Engagement%20Student%20Voice_0.pdf). See also Jenny Nagaoka et al., "Foundations for Young Adult Success: A Developmental Framework," The University of Chicago Consortium on Chicago School Research, June 2015, <https://consortium.uchicago.edu/sites/default/files/publications/Wallace%20Report.pdf>.

<sup>8</sup>See Mitchel Resnick, "All I Really Need to Know (About Creative Thinking) I Learned (By Studying How Children Learn) in Kindergarten," MIT Media Lab, <http://web.media.mit.edu/~mres/papers/kindergarten-learning-approach.pdf>.

<sup>9</sup>See Carol S. Dweck, *Mindset: The New Psychology of Success* (New York: Random House, 2006).

<sup>10</sup>See Angela Duckworth, *Grit: The Power of Passion and Perseverance* (New York: Simon and Schuster, 2016).

<sup>11</sup>See Amy C. Edmondson, *Teaming: How Organizations Learn, Innovate, and Compete in a Knowledge Economy* (San Francisco: Wiley, 2012).

<sup>12</sup>Michael B. Horn and Heather Staker, *Blended: Using Disruptive Innovation to Improve Schools* (San Francisco: Wiley, 2015), p. 54.

<sup>13</sup>Amy C. Edmondson, "The Three Pillars of a Teaming Culture," *Harvard Business Review*, December 17, 2013, <https://hbr.org/2013/12/the-three-pillars-of-a-teaming-culture> (accessed November 3, 2016).

<sup>14</sup>Amy C. Edmondson, "Teamwork on the Fly," *Harvard Business Review*, April 2012, <https://hbr.org/2012/04/teamwork-on-the-fly-2> (accessed November 3, 2016).

<sup>15</sup>Marcus Buckingham and Ashley Goodall, "Reinventing Performance Management," *Harvard Business Review*, April 2015, <https://hbr.org/2015/04/reinventing-performance-management> (accessed August 20, 2016).

<sup>16</sup>Bock, p. 197.

<sup>17</sup>Paul Tough, *How Children Succeed: Grit, Curiosity, and the Hidden Power of Character* (Boston: Houghton Mifflin Harcourt, 2012), pp. 47, 153.

<sup>18</sup>David Brooks, "The Building Blocks of Learning," *New York Times*, June 14, 2016, [http://www.nytimes.com/2016/06/14/opinion/the-building-blocks-of-learning.html?\\_r=1](http://www.nytimes.com/2016/06/14/opinion/the-building-blocks-of-learning.html?_r=1) (accessed September 7, 2016).

<sup>19</sup>Bock, p. 197.

<sup>20</sup>Bock, p. 203.

<sup>21</sup>Amy C. Edmondson, "The Importance of Teaming," *Harvard Business School Working Knowledge*, April 25, 2012, <http://hbswk.hbs.edu/item/the-importance-of-teaming> (accessed November 30, 2016).